LUXMAN 1500

SERVICE MANUAL

R 1500 CIRCUIT DESCRIPTION

Power Supply

The mains input to the Receiver goes via a 2 pole power switch to the mains transformer which has four secondary windings:

1. A 11 volt winding for the panel lamps.
2. A 25 volt winding for the speaker protection circuit.
3. A 75 volt centre tapped winding providing after full-wave rectification ⊕ and ⊖ supplies for the audio power amp section.
4. A 30-0-30 volt winding to provide 45 volts DC for the preamp and tuner sections. A potential divider using a zener diode which is used to obtain from 45 volts a 12 volt DC supply for the AM and FM tuner sections. The 2SC1382 transistor is used as a ripple filter providing 40 volts to the audio preamps. There are fuses in all the secondaries for transformer protection. A fuse is used as well in the preamp.

POWER AMPS

PNP transistors are used as a differential comparator; the audio input is fed to the first transistor and the feedback to the other. NPN metal can transistors are used as active loads for the differential comparator, the one NPN has its collector to ground, the other being the voltage amplifier for the entire output stage, which uses a PNP driver and a PNP output in the negative side connected as a darlington emitter follower configuration, and an NPN driver and NPN output is used in the positive side. These 4 transistors form what is known as a fully complementary symmetrical output stage.

Their input bases are bias with a 3 diode device (SV03) and a bias trim pot for idling current set (50 mA), 2 resistors and a condenser form the boots-trap constant current load for the voltage amplifier to drive the output stage. The junction of the emitter resistors is as a feed point for the differential comparator, and at the same time goes via a relay to the speaker selector switch to the speaker terminals and headphone socket via 680 ohm.

The headphone socket is always active regardless of speaker selection. PNP and NPN transistors are used to sense output current and voltage and if the output is short circuited will limit the drive to the output devices, thereby protecting the amplifier from overload.

Input sensitivity of the power amp is defined by the ratio of R811, R813 which = 700 mv for full output, and the low frequency roll off is determined by the reactance of C806 to R811 which in this circuit is 10Hz.

PRE AMP

Phono RIAA equalization amplifier 2 phono inputs can be selected both with the same input sensitivity. The RIAA amplifier uses a NPN, PNP and NPN direct coupled triplet of transistors which are selected low noise types, the equalization and DC feedback are taken from the emitter of the NPN back to the emitter of the input NPN transistor. This amp has a gain of 36 db (2.3mv – 150mv) at 1 KHz. The linearity of this direct coupled combination offers high overload capabilities (100 mv at 1 KHz). The 150mv nominal level is at the same level as the other functions.

The Mic amplifier uses basically the same circuit without equalization, being flat from 20 – 50 KHz with 38 dB gain.

The Function Switch selects AM, FM Aux 1 and 2 and Phono 1 and 2 the output of which can be mixed with the input from the mic amplifier. This audio then goes to the tape monitoring function switches.

There are two switches for the tape functions, these are mounted on the switch printed circuit board. The left switch enables in the "up" position dubbing from tape 1 – 2 and in the "lower" position from Tape 2 – 1, when "centre", it is off. The right-hand switch enables monitoring from Tape 1 in the up position, tape 2 in the lower and programme source in the centre position.

The switch for the loudness works in conjunction with the volume control so that its greatest effect is at low volume settings, the audio then passes on the tone control circuit.

LINEAR EQUALIZER and TONE CONTROL

The required selection will then go to the tone control printed circuit board which contains 2 NPN transistors direct coupled linear equalizer amp and 2 NPN transistor amp for tone control. The income signal is linear equalized by selecting the feedback components of this amp. The audio then passes on the tone control circuit. Two direct coupled NPN transistors are used in the Lux-type active bass and treble control, operating in a virtual earth mode with the input at the boost point of the controls and the base of the transistor fed from the slider of the bass control via C741 and C742, the emitter being the feedback point to the controls and providing the output which is at unity gain with respect to the input, to drive the active filter circuit. Included on the tone control board are two switches for changing to bass and treble turn over frequency points.

FILTER BOARD

The Sallen Keyes type filter circuit has components selectable by the front panel low and high cut switches to provide a 12 dB/oct. roll off. The output is sufficiently low impeadance to drive the power amp circuit.

SPEAKER PROTECTION

Speaker protection relay is provided in this receiver to protect speakers from damage. Speaker output terminals must always have no significant residual DC voltage, but if some plus or minus voltage appears these terminals, the

relay operates and cuts speakers connection from output stage.
This circuit is mounted on the power supply board.

AM SECTION

A superhet design using a tuned RF amplifier, a mixer/local oscillator and two stages of IF amplification at 455 KHz. A ferrite rod antenna with 3 windings is used, the first winding is connected to the external antenna terminal, the second is connected to the first section of a 3 gang tuning condenser, the last winding feeding the base of the RF transistor amplifier. A tuned RF transformer is used to couple the collector to the base of the self-mixing oscillator. The oscillator operates at 455 KHz above the incoming signal to produce the intermediate frequency, which is passed through a first IFT and then amplified by two further transistor IF stages. The audio is then recovered by a germanium diode detector and passed on to the pre amp via noise filter and selector switch, and the signal strength meter is driven from the audio detector output. A silicon diode is used to provide an A.G.C. voltage which controls the gain of the first IF amplifier; the collector of this provides an amplified AGC back to the emitter of the RF transistor. This method used provides an audio output relatively constant with varying R.F. signal strength.

FM SECTION

An input balun transformer matches either 300 ohm or 75 ohm antenna input to the Front end, which has a 4 gang tuning capacitor and consists of a dual gate FET for the tuned RF amp feeding, via a two-section transformer, the bi-polar transistor mixer.
A bipolar transistor "Colpitts" oscillator operates at 10.7 mcs above the incoming signal. C116 is a negative temperature coefficient condenser to stabilize the oscillator to less than 25 KHz per 10 deg. Celsius. The output is then fed via a 1 pf condenser to the mixer, the resultant 10.7 MHz passes through a double tuned IFT included in the front end module.
The front end module is well shielded to prevent any spurious radiation, and to offer good image and selectivity responses.

IF

The IF strip is contained on the same printed circuit board as the stereo multiplex decoder and muting circuits.
The 10.7 MHz IF intermediate frequency is amplified by a transistor then passed through a ceramic filter with a side chain A.G.C. amplifier to provide a D.C. control voltage (A.G.C.) for the RF input FET to improve the front end overload capabilities. The main chain is again amplified by a further transistor and ceramic filter providing a wide pass band with steep sides.

A differential IC with a built-in constant current source provides partial limiting, this passing through an IF transformer into the final multistage I.C. which provides hard limiting characteristics for the ratio discriminator, which provides the composite audio output for the multiplex.
A second side chain amplifier and rectifier monitors the input to the first I.C. to provide a signal strength control command as well as driving the signal strength meter.
At the audio output when the receiver is off-tuned from centre either a positive or negative D.C. will appear which is monitored both by a centre tune meter and a bi-phase detector using one NPN and one PNP transistor which with another NPN forms an "AND" gate for one of two "shmitt" trigger circuits. The other shmitt trigger receives a command from the signal strength circuit previously mentioned.
The collectors of the final transistor in each circuit form a "wired OR" gate which via the muting "On-Off" switch on the front panel controls the gate on the FET audio mute circuit if it is enabled. The composite audio passes on to the I.C. multiplex, which will derive the L and R audio output, the IC also is connected directly to the stereo indicator lamp.
The Left and Right go through L.C. type rejection filters to remove the 19 KHz pilot. These are both in one moulding.
Finally, a one transistor amplifier is used in each channel to raise the level to 400 m volts for the audio pre amp. A de-emphasis switch has been incorporated on the P.C. board for selecting either 75 μsec. (American) or 50 μsec. time constant.

R-1500 ALIGNMENT PROCEDURE

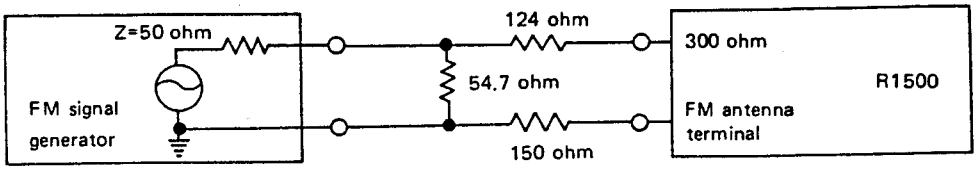
The alignment procedure described in each chart may be performed independently, without affecting the others.
Warm up the signal generators for at least 15 minutes to make certain that they are stabilized at their operating temperature particularly generators containing vacuum tubes. Consult the instruction manual supplied with the particular test instrument for specific information concerning connection and operation.
The test equipment listed here is intended only as a quide, but alternate instruments should be of similar quality.
The following instruments are required for a complete alignment of the tuner.

1. Measurement instruments and tools

Signal source	1) FM signal generator (FMSG)	Meguro MSG–285A or equivalent
	2) Sweep generator (SWG)	JRC NJM–5217C or equivalent
	3) AM signal generator (AMSG)	Meguro MSG–221C or equivalent
	4) FM stereo modulator (MPXSG)	Sound technology–1000A or equivalent
	5) Audio oscillator (AFO) 10-100KHz 0.2% accuracy, Dist. 0.1%	Oscillation freq. range 10-100,000Hz, calibration error within 0.2%, distortion 0.1%
	6) AM standard loop antenna	Meguro MLA-1001B or equivalent
Output indicator	7) Oscilloscope (CRO) Mid bandwidth 5MHz	Iwatsu SS-5057V or equivalent
	8) Distortion meter (HDM)	Shibasoku 796E or equivalent
	9) AC volt meter (ACVTVM)	Kikusui 164 or equivalent
	10) DC volt meter (DCVTVM)	Kikusui 107A or equivalent
Tools	11) Hex head alignment tool	
	12 Thin plastic shaft alignment tool	

2. General alignment conditions

1) The normal test voltage is within 10% of what is indicated on the receiver with less than 2% harmonic distortion.
2) Unless otherwise specified, the normal ambient temperature is 15–25°C and humidity 55–75%. But if this is not possible, 5–35°C, 45–85% will provide acceptable results.
3) FM dummy antenna shall be as follows if not otherwise specified. The output voltage of the signal generator is 1/4 of the unloaded terminal voltage.



4) Connect the low side of signal source and the output indicator to the chassis ground as close as possible to the high side connection unless otherwise specified.
5) The 10.7MHz marker used in each section of the alignment should be the same.
6) Marker insertion and amplitude should not distort the oscilloscope trace.
7) The AM standard loop antenna should be set above the ferrite loopstick antenna.
8) The output level of the sweep generator is measured by the output attenuator regardless of its terminated impedance.
9) FM modulation is 100% with ±75 KHz
10) All tuner audio output measurement are at TAPEOUT 1.

Step.	Signal Source Connected to	Set signal to	Set Radio Dial to	Output Indicator Connected to	Adjust	Adjust for
1	Set selector switch to "FM", muting switch to "off", stereo only switch to "off" and turn power switch "on"					
2				DC VTVM PB351 (17)		Check that voltage is between 11.5 ~ 12.3V
3				Refer circuit diagram		Check each part voltage if necessary
4	Sweep generator PB353 (1)	±400KHz sweep centred at 10.7MHz generator output level 90–100dB	Quiet point on band	Oscilloscope PB353 TP–2		Due to the fixed frequency of the ceramic filters, find the centre frequency of a symmetrical band pass response. Make a note of it (for example 10.75MHz)
5				Oscilloscope PB353 TP–3	T201 T202 core	Symmetrical response centred at the frequency noted by step 4
6				Oscilloscope PB353 TP–4	T204 core	
7				Oscilloscope PB353 (19)	T203 top core T203 bottom core	Maximum linearity and amplitude of "S" curve centred at the frequency noted by step 4
8	FM signal generator Across FM antenna terminals (300Ω) through matching network	Reduce the output level to zero (interstation receiving condition	93MHz		T203 top core	Centre indication of the tuning meter
9		93MHz at 400Hz 100% modulation, output level 1mV		Oscilloscope Distortion meter AC VTVM TAPEOUT 1	T203 bottom core	Minimum distortion. At the minimum distortion setting, the output level must be within 1/2dB of peak output.
10	Repeat steps 8 and 9 as necessary to obtain maximum output level and minimum distortion at centre point of tuning meter and the meter must also shows centre at interstation state.					
11	FM signal generator Across FM antenna terminals (300Ω) through matching network	88MHz at 400Hz 30% modulation, generator output level 1mV	88MHz	Oscilloscope Distortion meter AC VTVM TAPE OUT 1	VR202	90% of full scale on signal meter reading
12					T204 core	The signal strength meter must indicate its maximum, at the same time as the centre tune meter indicates centre
13					L104	Accurate indication of pointer on dial to within ± 1 pointer width
14		108MHz at 400Hz 30% modulation, generator output level 1mV	108MHz		TC104	
15		88MHz at 400Hz 30% modulation, generator output level 5 ~ 10μV	88MHz		T101 top core T101 bottom core	Maximum indication of signal strength meter
16					L101	

Step.	Signal Source / Connected to	Set signal to	Set Radio Dial to	Output Indicator / Connected to	Adjust	Adjust for
17	FM signal generator Across FM antenna terminals (300Ω) through matching network	88MHz at 400Hz 30% modulation, generator output level 5 ~ 10μV	88MHz	Oscilloscope Distortion meter AC VTVM TAPE OUT 1	L102	Maximum indication of signal strength meter
18					L103	
19		108MHz at 400Hz 30% modulation, generator output level 5 ~ 10μV	108MHz		TC101	
20					TC102	
21					TC103	
22	Repeat steps 13 ~ 21 as necessary to obtain correct tuning on dial scale and the maximum indication of signal meter with uniform sensitivity throughout the band					
23	FM signal generator Across FM antenna terminals (300Ω) through matching network	Reduce the output level to zero (interstation receiving condition	93MHz	Oscilloscope Distortion meter AC VTVM TAPE OUT 1	T203 top core	Center indication of the tuning meter
24		93MHz at 400Hz 100% modulation, output level 1mV			T203 bottom core	Minimum distortion. At the minimum distortion setting, the output level must be within 1/2 dB of peak output.
25		88MHz at 400Hz 100% modulation	88MHz			IHF maximum usable sensitivity which is the minimum output level of FMSG required for distortion and noise to be −30dB of total output
26		108MHz at 400Hz 100% modulation	108MHz			
27	Set muting switch "on" & turn muting level to full clockwise					
28	FM signal generator Across FM antenna terminals (300Ω) through matching network	98MHz at 400Hz 100% modulation generator output level 4μV	98MHz	Oscilloscope AC VTVM TAPE OUT 1	VR201	Fix VR201 at the point where output signals appear
29		98MHz at 19KHz 3 ~ 4% modulation generator output level 1mV		Oscilloscope PB351 CP−5	T205 core	Maximum amplitude of oscilloscope trace
30					T207 core	
31					T206 core	
32	Repeat steps 29 ~ 31 as necessary for alignment of perfect tuning					
33	FM signal generator Across FM antenna terminals (300Ω) through matching network	98MHz at 19KHz 10% (L−R) 400Hz 45% output level 1mV	98MHz	Oscilloscope AC VTVM TAPE OUT 1	T206 core	To obtain peak output voltage
34		98MHz at 19KHz 10% L (or R) stereo 90% modulation output level 1mV			VR203	Maximum separation

Step.	Signal Source Connected to	Set signal to	Set Radio Dial to	Output Indicator Connected to	Adjust	Adjust for
35	Set selector switch to "AM"					
36	Connect TP2 and TP3 on PB460					
37	Sweep generator PB460 (1) through 1μF mylar capacitor	±20～25KHZ sweep centred at 455KHz generator output level 3～10mV	Quiet point on band near 1600KHz	Oscilloscope AC VTVM PB460 (7)	T403 top core	Maximum symmetrical response centred at 455KHz
38					T403 bottom core	
39					T404 top core	
40					T404 bottom core	
41					T405 core	
42	Disconnect TP2 and TP3 connected at step 36					
43	Adjust VR401 to mechanical center position					
44	AM signal generator Standard radiating loop antenna placed near AM built in antenna	600KHz at 400Hz 30% modulation, field strength 50dB/m	600KHz	Oscilloscope AC VTVM TAPE OUT 1	T402 core	Accurate indication of pointer on dial to within ± 1 pointer width
45					L001 core	Maximum reading on AC VTVM
46					L401 core	
47		1400KHz at 400Hz 30% modulation, field strength 50dB/m	1400KHz		TC003	Accurate indication of pointer on dial to within ± 1 pointer width
48					TC001	Maximum reading on AC VTVM
49					TC002	
50	Repeat steps 44～49 as necessary to obtain exact tuning on dial scale and maximum sensitivity					
51	AM signal generator Standard radiating loop antenna placed near AM built in antenna	1000KHz at 400Hz 30% modulation, field strength 90dB/m	1000KHz	Oscilosope AC VTVM TAPE OUT 1	VR401	To obtain 100mV at TAPE OUT 1

SEMICONDUCTOR SPECIFIC CHART

TRANSISTORS (Ta = 25°C)

TYPE	MAX. RATING			CHARACTERISTICS											
	Pc	Vceo	Ic	hfe				fT MHz			NF				
	W	V	mA	min	max	Ic mA	Vce V	typ	Ic mA	Vce V	max dB	Ic mA	Vce V	fre Hz	Zg Ω
2SA620K	0.2	70	50	150	320	1	6	120	1	6	0.7	0.1	6	1K	10K
2SA640L	0.25	45	30	225	450	0.5	3	100	1	3					
2SA679Y	100	120	12000	70	140	2000	5	6	2000	5					
2SA733P,Q	0.25	40	100		270	1	6	180	10	6	20	0.3	6	100	10K
2SA762-22	23	130	2000	100	240	400	2	80	100	2					
2SC372Y	0.2	30	100	120	240	2	12	200	1	10					
2SC381R	0.1	30	20	40	80	1	6	350	1	6					
2SC535	0.1	20	20					700	5	6	5.5	1	6	100M	50
2SC1382O,Y	0.8	80	750	70	240	150	2	100	150	2					
2SC1079Y	100	150	12000	70	140	2000	5	9	2000	5					
2SC945P,Q	0.25	40	100	135	270	1	6	300	10	6	20	0.5	6	1K	500
2SC1103A	0.8	250	100	100	200	10	10	80	10	30					
2SC1000GR	0.2	50	100	200	400	2	6	80	1	6	3	0.1	6	100	10K
2SC1345E	0.2	50	100	400	800	2	12	230	2	12	1	0.1	6	1K	10K
2SC1431-22	23	130	2000	100	240	400	2	80	100	2					

FIELD EFFECT TRANSISTOR (Ta = 25°C)

TYPE	MAX. RATING			CHARACTERISTICS						
	Pch	VG1SS, VG2SS	IG1, IG2	IDSS mA			Crss pF		NF	
	mW	V	mA	min	max	Vds V		Vds V	typ	Vds V
3SK30	200	−15	10	3	20	10	0.6	10	2.0	10
2SK19	200	−18	10	3	24	10	0.8	10	2.0	10
2SK30A	100	−50	10	0.6	1.4	10	2.6	10	0.5	15

DIODES (Ta = 25°C)

TYPE	MAX. RATING			CHARACTERISTICS			
	IF	Vr	Surge	If		Ir	
	A	V	A	mA	Vf V	μA	Vr V
IS188	0.05	−35	0.5	0.004	0.1	−75	−10
IS1554	0.3	−50	1	100	1.0	0.5	−50
KB265	0.03			0.003	1.31		
KB−165	0.05	3		0.003	0.65		
SV−03	0.15			1	1.8	10	−100
WZ−120	0.04	−12		20	0.8	0～40mA	−12
CZ−117	0.085	−11.7		20	0.85	0～85mA	−11.7
IN4001	1	−50	30	1000	1.1	5	−50
IN4003	1	−200	30	1000	1.1	5	−200
HI-FI SPECIAL	3	−400	150	3000	1.25	5	−400

INTEGRATED CIRCUIT SPECIFIC CHART

TA7061AP

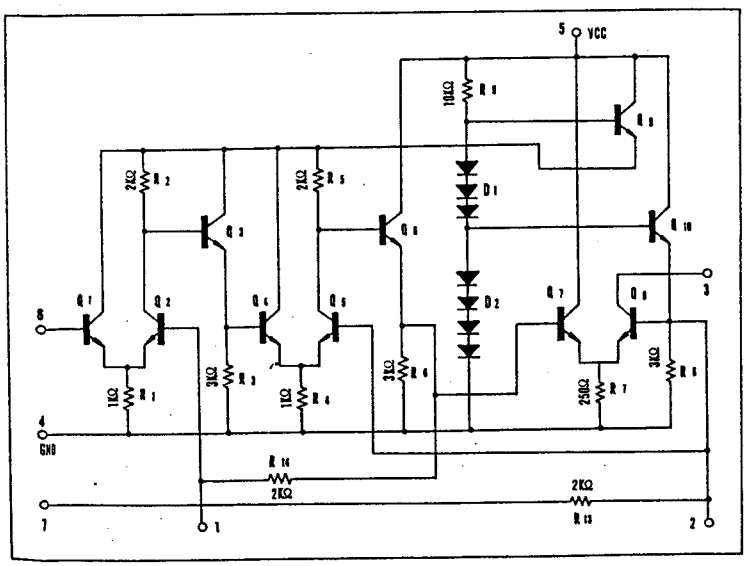
MAXIMUM LIMITS OF DEVICE (Ta = 25°C)

	Symbol	Rating	Unit
Max. Vcc	Vcc	15	V
Input voltage (terminals 6–7)	VI	±3	V
Max. dissipation	PD	300	mW
Operating temperature (Vcc = 7.5V)	Topr	−30∼75	°C
Storage temperature	Tstg	−55∼125	°C

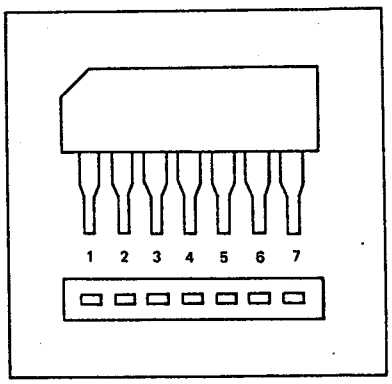
ELECTRICAL SPECIFICATION (Ta = 25°C)

	Symbol	Condition of measurement	Min.	Typ.	Max.	Unit
Current vs supply Vcc	Icc	Vcc = 6.0V		11	13	mA
		Vcc = 7.5V	7	8.5		
Gain (dB)	Gp	Vcc = 7.5V, f = 10.7MHz	66	69	72	dB
Input impedance	RI	Vcc = 7.5V, f = 10.7MHz		5		KΩ
Input capacitance	CI			6		pF
Output impedance	Ro	Vcc = 7.5V, f = 10.7MHz		10		KΩ
Output capacitance	Co			5		pF
Input voltage for full limitting	VI (lim)	Vcc = 7.5V, RL = 1KΩ		600		μV

EQUIVALENT CIRCUIT



PIN CONNECTOR



LM703

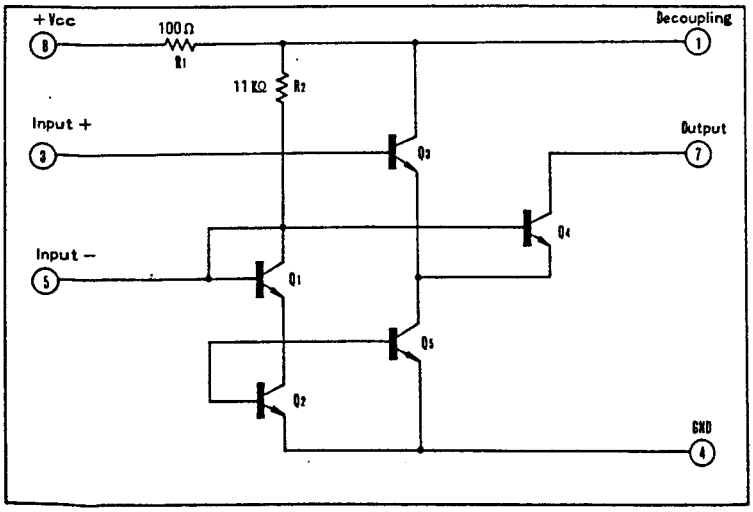
MAXIMUM LIMITS OF DEVICE (Ta = 25°C)

	Symbol	Rating	Unit
Max. supply voltage	Vcc	20	V
Output collector voltage	V7	24	V
Input voltage	V3–5	±5.0	V
Max. dissipation	PD	200	mW
Operating temperature	Ta	0～70	°C
Storage temperature	Tstg	–65～+150	°C

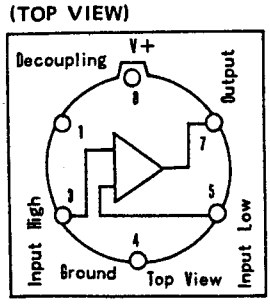
ELECTRICAL SPECIFICATION (Ta = 25°C Vcc = 12V)

	Symbol	Condition of measurement	Min.	Typ.	Max.	Unit
Power dissipation	PD	ein = 0		71	96	mW
Output collector current	17	ein = 0	1.5	2.5	3.3	mA
Peak to peak current	iopp	ein = 400mVrms f = 10.7MHz	3.0	5.0		mA P-P
Output saturation	Vo (SAT)				1.7	V
Forward transfer admittance		ein = 10mVrms f ≦ 10.7MHz	24	33		mV
Input conductance	gin	ein ≦ 10mVrms f ≦ 10.7MHz		0.35	1.0	mV
Input capacitance	cin	ein ≦ 10mVrms f ≦ 10.7MHz		9.0	12.5	PF
Output capacitance	Co	f ≦ 10.7MHz		2.6	4.0	PF
Output conductance	go	eo ≦ 10mVrms f ≦ 10.7MHz		0.03	0.05	mV
Voltage gain	Gv	f = 100MHz		28		dB

EQUIVALENT CIRCUIT



PIN CONNECTOR (TOP VIEW)



ABSOLUTE MAXIMUM RATING (Ta = 25°C)

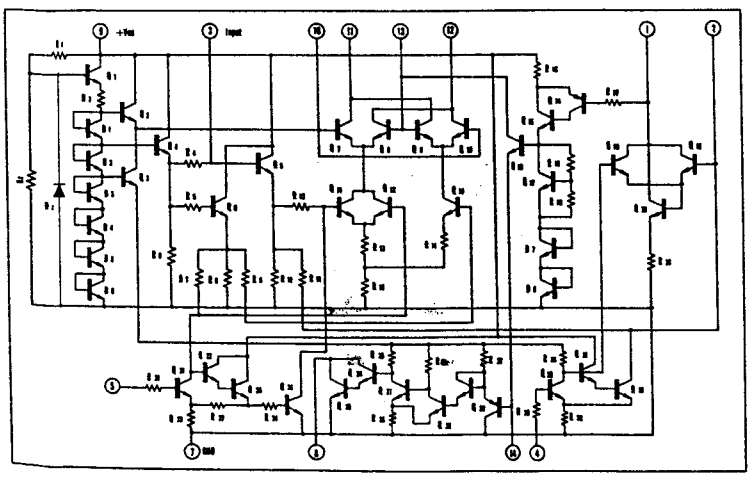
	Symbol	Rating	Unit
Supply voltage	Vcc	15	V
Max. device current	Icc	18	mA
Lamp driver current, max.	IL	100	mA
Device dissipation, max.	PD	400	mW
Operating temperature	Topr	0～±75	°C
Storage temperature	Tstg	40～±125	°C

Note
1. Condition of measurement = input signal 200mVrms (Pilot 10%), frequency 1KHz.
2. R.P.F. of f = 15KHz shall be used for separation measurement.

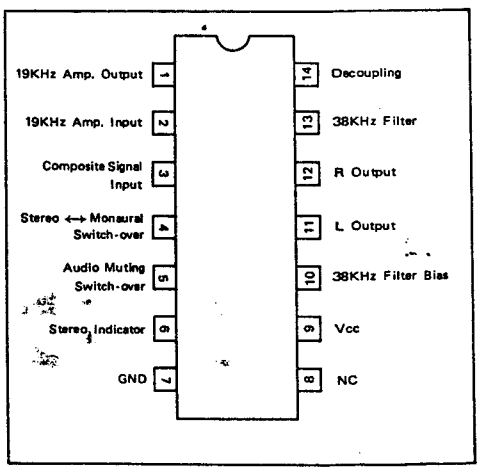
ELECTRICAL CHARACTERISTICS (Ta = 25°C, Vcc = +9.0V)

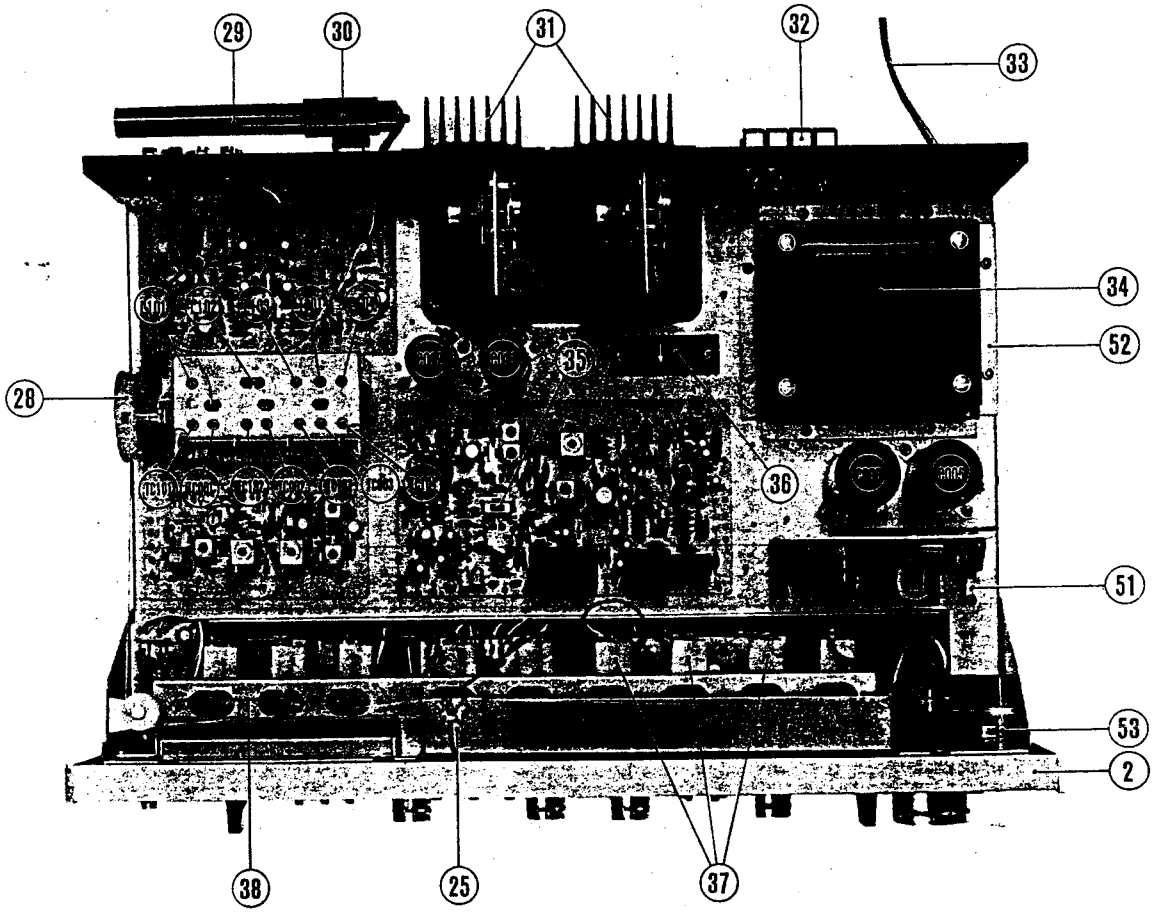
		Symbol	Circuit for measurement	Condition of measurement	Min.	Typ.	Max.	Unit
Circuit current		Icc	1	at zero signal		10	18	mA
Input impedance		Zi	1			20		KΩ
Separation				f = 100Hz		35		dB
				f = 1KHz		45		
				f = 10KHz		30		
Gain (dB)		Av	1	38KHz B.E.F.		−1.5		dB
Channel balance		ch. B	1	(Mono)		0.2	2.0	dB
Distortion		T.H.D.		(Mono)		0.5	1.0	%
Audio / muting changeover level		Mute OFF	1			0.85	1.00	V
		Mute ON	1		1.00	1.08		
Sensitivity of Stereo indicator lamp		Lamp ON	1	(Pilot level)		12		mV
		Lamp OFF	1			8.4		
Stereo / mono Changeover level		STEREO	1		1.00	1.13		V
		MONO	1			0.82	1.00	
AM suppression	19KHz			(within 1KHz)		30		dB
	38KHz					25		
SCA rejection		SCA Rejection				55		dB
Muting			1		45	55		dB

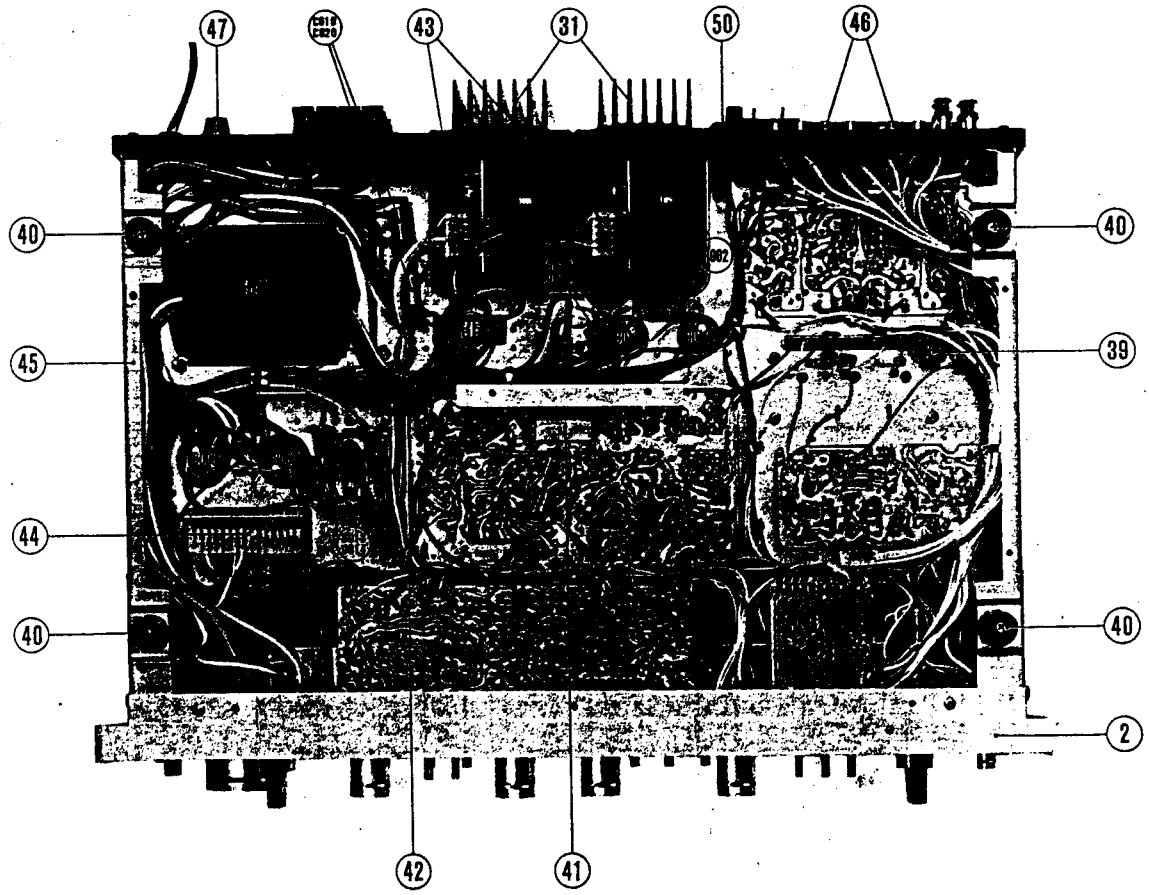
EQUIVALENT CIRCUIT

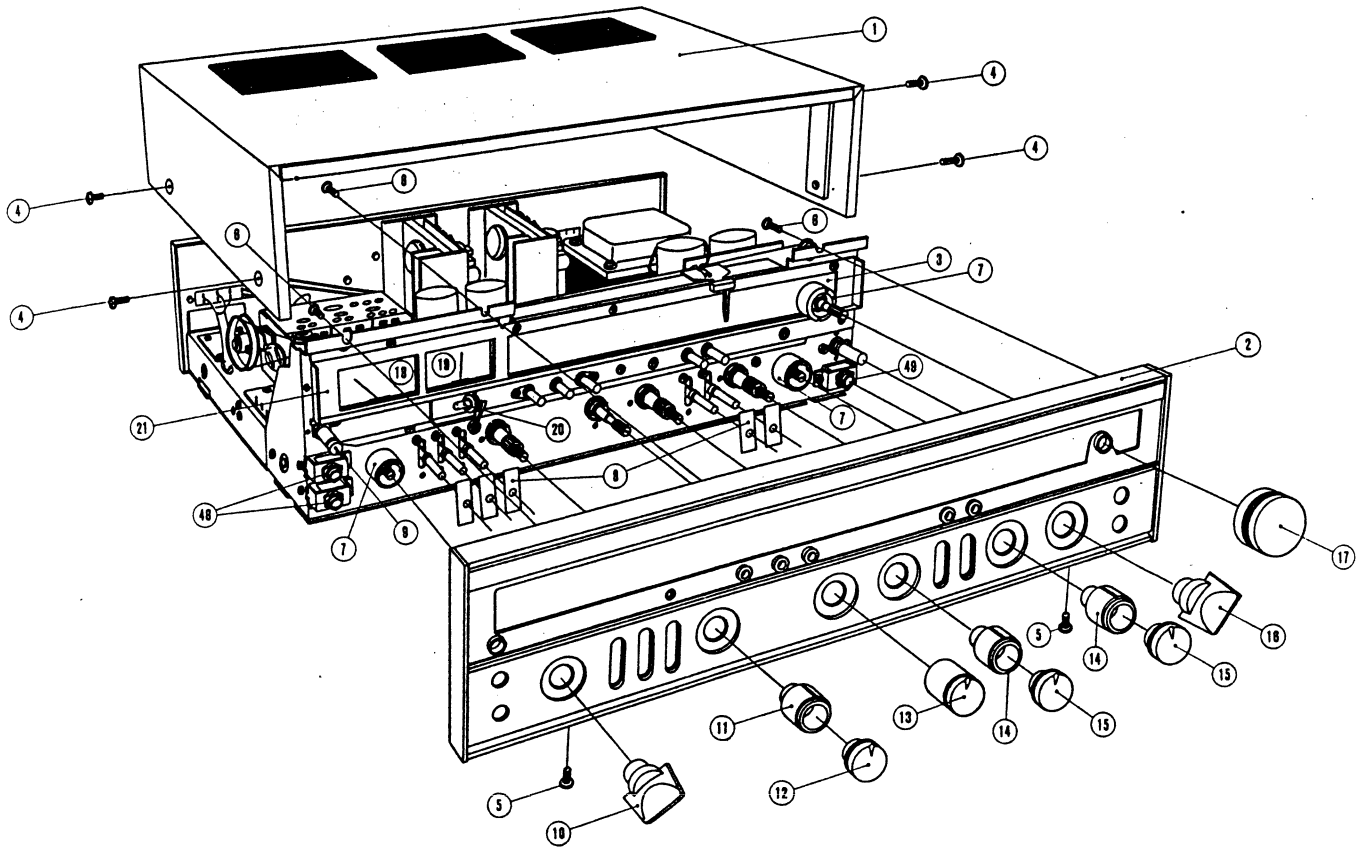


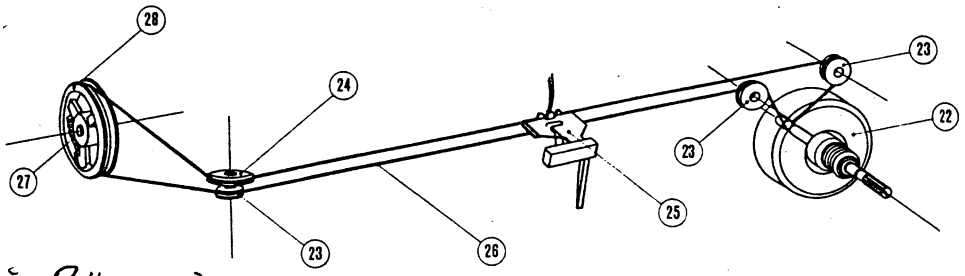
PIN CONNECTOR (Top view)




29
30
31
32
33
34
52
28
35
36
51
53
2
38
25
37

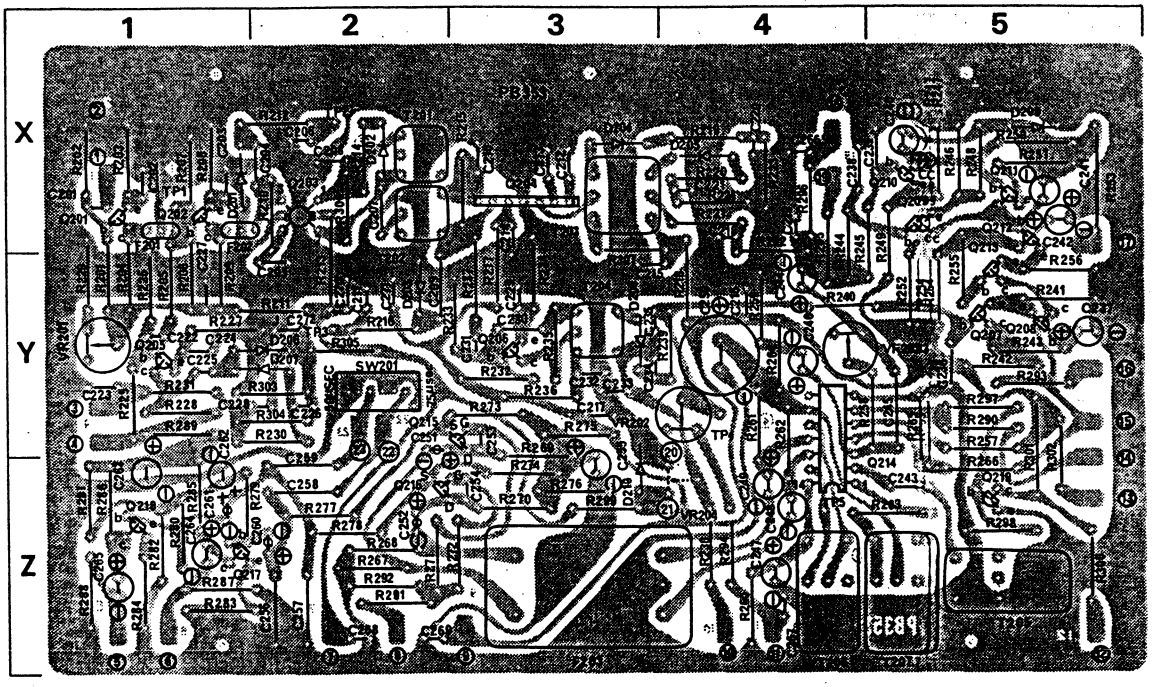

47
43
31
50
46
40
40
45
39
44
40
40
2
42
41





1. Cover
   (Wood Finish, ex Rose wood)
2. Pannel
   (Front complete Ass'y)
3. Dial Scale
4. Screw 5mm x 18mm
5. Screw 3mm x 6mm
6. Screw 4mm x 4mm
7. Bush, mounting
8. Mask, paper
9. Knob (Mic level)
10. Knob (Input selector)
11. Knob (Outer volume) ~ Pod: RV-0042
12. Knob (Inner volume) ~
13. Knob (Linear equalizer)
14. Knob (Outer tone control)
15. Knob (Inner tone control)
16. Knob (Speaker selector)
17. Knob (Tuning)
18. Singnal strength meter
19. FM fine tuning meter
20. Stereo beacon
21. Dial scale cover
22. Tuning shaft and flywheel ass'y complete with mounting collect — 22. UX 1004
23. Pully 13mm
24. Pully 20mm
25. Tuning pointer ass'y (Complete with lamps)
26. Cord dial
27. Spring (Tension for dial cord)
28. Drum (Tuning capacitor)
29. AM ferrite core antenna
30. Braket, antenna
31. Power amp. complete ass'y
32. Speaker terminals
33. Mains cord
34. Power transformer
35. De-emphasis switch 50μ sec ⟷ 75μ sec (Ⓔ MODEL only)
36. Voltage selector 100-110-220-240V (Ⓔ MODEL only)
37. Dial illumination lamps
38. Dial lamp holder
39. Antenna balun
40. Foot
41. Shield IF
42. Clamp, cable
43. Connector, power amp.
44. Connector, power supply
45. Chassis complete ass'y
46. Pin jack ass'y Female
47. Fuse holder (Ⓔ & Ⓤ MODEL only)
48. Microphone jack
49. Headphone jack
50. Pannel back
51. Braket, power supply board
52. Mounting, transformer
53. Stand, pully

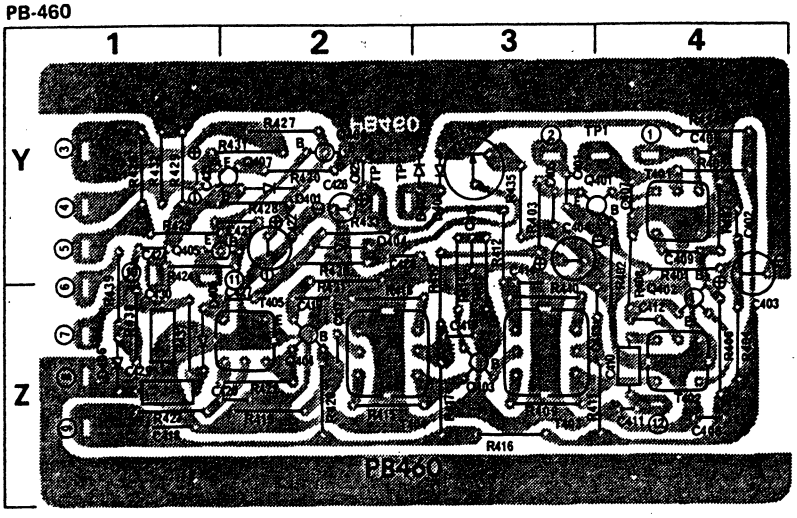
PB-353



PB-353 Component Location

R201 ..... Y1	R239 ..... Y4	R277 ..... Z2	C212 ..... X3	CZ250 ..... Y4	Q210 ..... X5
R202 ..... X1	R240 ..... Y4	R278 ..... Z2	C213 ..... X3	CZ251 ..... Z2	Q211 ..... X5
R203 ..... X1	R241 ..... Y5	R279 ..... Z1	C214 ..... X3	CZ252 ..... Z2	Q212 ..... X5
R204 ..... Y1	R242 ..... Y5	R280 ..... Z1	C215 ..... Y3	CZ253 ..... Y3	Q213 ..... Y5
R205 ..... Y1	R243 ..... Y5	R281 ..... Z1	C216 ..... Y4	CZ254 ..... Z3	Q214 ..... Y4
R206 ..... Y1	R244 ..... X4	R282 ..... Z1	C217 ..... Y3	CZ255 ..... Z3	Q215 ..... Y2
R207 ..... X1	R245 ..... X4	R283 ..... Z1	C218 ..... X4	CZ256 ..... Z2	Q216 ..... Z2
R208 ..... X1	R246 ..... X5	R284 ..... Z1	C219 ..... X4	CZ257 ..... Z2	Q217 ..... Z1
R209 ..... Y1	R247 ..... X5	R285 ..... Z1	C220 ..... X4	CZ258 ..... Z2	Q218 ..... Z1
R210 ..... X2	R248 ..... X5	R286 ..... Z1	C221 ..... X4	CZ259 ..... Z2	Q219 ..... Z5
R211 ..... Y2	R249 ..... X4	R287 ..... Z1	C222 ..... Y2	CZ260 ..... Z2	
R212 ..... X2	R250 ..... X5	R288 ..... Z1	C223 ..... Y1	CZ261 ..... Z1	D201 ..... X1
R213 ..... Y2	R251 ..... X5	R289 ..... Y1	C224 ..... Y1	CZ262 ..... Z1	D202 ..... X2
R214 ..... X2	R252 ..... Y5	R290 ..... Y5	C225 ..... Y1	CZ263 ..... Z1	D203 ..... Y2
R215 ..... X3	R253 ..... X5	R291 ..... Z2	C226 ..... Y2	CZ264 ..... Z1	D204 ..... X3
R216 ..... Y2	R254 ..... Y5	R292 ..... Z2	C227 ..... Y1	CZ265 ..... Z1	D205 ..... X4
R217 ..... Y3	R255 ..... X5	R293 ..... Y5	C228 ..... Y2	CZ266 ..... X4	D206 ..... Y2
R218 ..... Y4	R256 ..... Y5	R294 ..... Z4	C229 ..... Y3	CZ267 ..... Z4	D207 ..... Y2
R219 ..... X4	R257 ..... Y5	R295 ..... X4	C230 ..... Y3	CZ268 ..... Z2	D208 ..... Y3
R220 ..... X4	R258 ..... Y4	R296 ..... X4	C231 ..... Y3	CZ269 ..... Z2	D209 ..... X5
R221 ..... X4	R259 ..... Y4	R297 ..... Y5	C232 ..... Y3		D210 ..... Z3
R222 ..... Y4	R260 ..... Z4	R298 ..... Z5	C233 ..... Y3	VRR201 ..... Y1	D211 ..... (X5)
R223 ..... X4	R261 ..... Y4	R299 ..... Z3	C234 ..... Y3	VRR202 ..... Y4	
R224 ..... X4	R262 ..... Y4	R300 ..... Z5	C235 ..... Y3	VRR203 ..... Y4	T201 ..... X1
R225 ..... Y1	R263 ..... Z5	R301 ..... Y5	C236 ..... Y5		T202 ..... X1
R226 ..... Y1	R264 ..... Y4	R302 ..... Y5	C237 ..... Y5	FZ201 ..... X1	T203 ..... X3
R227 ..... Y1	R265 ..... Y5		C238 ..... X4	FZ202 ..... X1	T204 ..... Y3
R228 ..... Y1	R266 ..... Z5	C201 ..... X1	C239 ..... X5	FZ203 ..... Z3	T205 ..... Z5
R229 ..... Y1	R267 ..... Z2	C202 ..... X1	C240		T206 ..... Z4
R230 ..... Y2	R268 ..... Z2	C203 ..... X1	C241 ..... X5	QZ201 ..... X1	T207 ..... Z5
R231 ..... Y1	R269 ..... Y3	C204 ..... X2	C242 ..... X5	QZ202 ..... X1	
R232 ..... Y3	R270 ..... Z3	C205 ..... Y2	C243 ..... Z5	QZ203 ..... X2	(1) X1
R233 ..... Y2	R271 ..... Z2	C206 ..... X2	C244 ..... Y4	QZ204 ..... X3	(2) X1
R234 ..... Y3	R272 ..... Z2	C207 ..... X2	C245 ..... Y5	QZ205 ..... Y1	(3) Y1
R235 ..... Y3	R273 ..... Y3	C208 ..... X2	C246 ..... Y4	QZ206 ..... Y3	(4) Y1
R236 ..... Y3	R274 ..... Z3	C209 ..... Y2	C247 ..... Z4	QZ207 ..... Y5	(5) Z1
R237 ..... Y3	R275 ..... Y3	C210 ..... X3	C248 ..... Z4	QZ208 ..... Y5	(6) Z1
R238 ..... Z4	R276 ..... Z3	C211 ..... Y2	C249 ..... Z4	QZ209 ..... X5	(7) Z2

PB-460



PB-460 Component Location

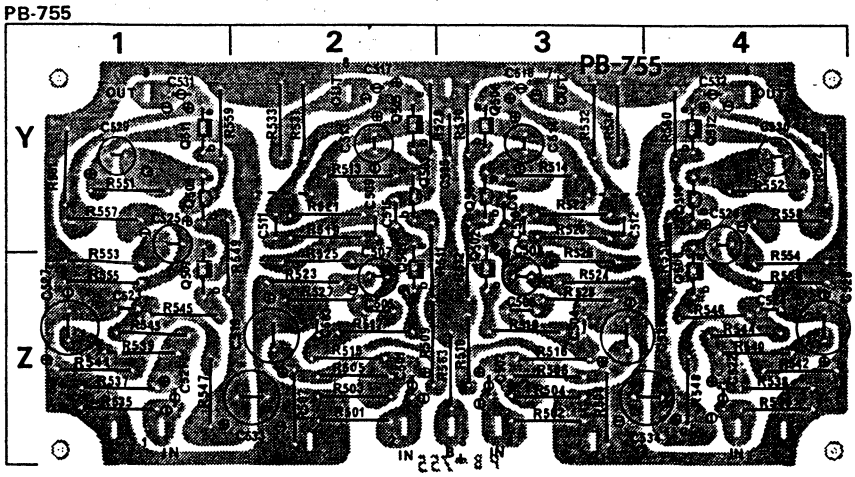
R401	Y4	C415	Y3
R402	Y4	C416	Y3
R403	Y3	C417	Z2
R404	Z4	C418	Z1
R405	Y4	C419	Z2
R406	Z4	C420	Z2
R407	Y4	C425	Y2
R408	Y4	C426	Y2
R409	Z3	C427	Z2
R410	Z3	C428	Y2
R411	Z4	C429	Z1
R412	Y3	C430	Z1
R413	Y3		
R414	Y3	VR401	Y3
R415	Z2		
R416	Z3	T401	Y4
R417	Z3	T402	Z4
R418	Z2	T403	Z3
R419	Z2	T404	Z2
R420	Z2	T405	Z2
R421	Y2		
R422	Z2	Q401	Y4
R423	Z1	Q402	Z4
R433	Y2	Q403	Z3
R434	Y4	Q404	Z2
R435	Y3		
R436	Y2	D402	Y3
R437	Z1	D403	Y3
R438	Z1	D404	Y2
R439	Z1	D405	Z1
R440	Z3	D406	Z1
C401	Y3	(1)	Y4
C402	Y4	(2)	Y3
C403	Y3	(6)	Z1
C404	Y3	(7)	Z1
C405	Y3	(8)	Z1
C406	Y4	(9)	Z1
C407	Y4	(12)	Z4
C408	Z4		
C409	Y4	TP1	Y4
C410	Z4	TP2	Y2
C411	Z4	TP3	Y2
C412	Z4		
C413	Z3		
C414	Y3		

(8)	Z2
(9)	Z3
(10)	Z4
(11)	Z4
(12)	Z5
(13)	Z5
(14)	Z5
(15)	Y5
(16)	Y5
(17)	X5
(18)	X4
(19)	X4
(20)	Z4
(21)	Z4
TP1	X1
TP2	X2
TP3	Y2
TP4	Y4
TP5	Z4

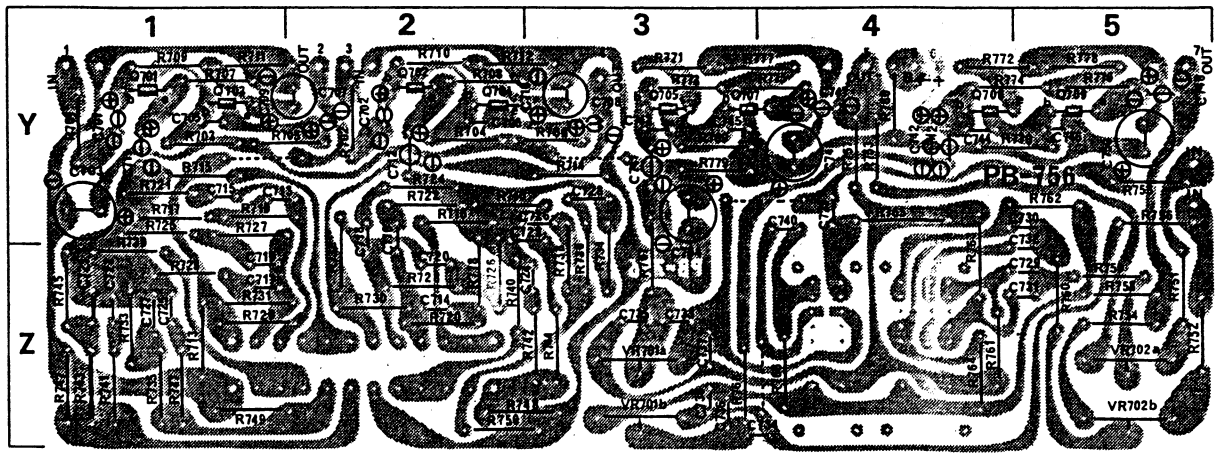
PB-755 Components Location

R501	Z2	R516	Z3	R531	Y2	R546	Z4	R56161	Y1	C530	Y4
R502	Z3	R517	Z2	R532	Y3	R547	Z1	R56262	Y4	C531	Y1
R503	Z2	R518	Z3	R533	Y2	R548	Z4	R56363	Y3	C532	Y4
R504	Z3	R519	Y2	R534	Y3	R549	Z1			C533	Z2
R505	Z2	R520	Y3	R535	Z1	R550	Z4	C50101	Z2	C534	Z3
R506	Z3	R521	Y2	R536	Z4	R551	Y1	C50202	Z3	C535	Y3
R507	Z2	R522	Y3	R537	Z1	R552	Y4	C50303	Z2		
R508	Z3	R523	Z2	R538	Z4	R553	Z1	C50404	Z3	Q501	Z2
R509	Z2	R524	Z3	R539	Z1	R554	Z4	C50505	Z2	Q502	Z3
R510	Z3	R525	Z2	R540	Z4	R555	Z1	C50606	Z3	Q503	Y2
R511	Z2	R526	Z3	R541	Z1	R556	Z4	C50707	Z2	Q504	Y3
R512	Z3	R527	Z2	R542	Z4	R557	Y1	C50808	Z3	Q505	Y2
R513	Y2	R528	Z3	R543	Z1	R558	Y4	C50909	Y2	Q506	Y3
R514	Y3	R529	Y2	R544	Z4	R559	Y1	C51010	Y3	Q507	Z1
R515	Z2	R530	Y3	R545	Z1	R560	Y4	C51111	Y2	Q508	Z4
								C51212	Y3	Q509	Y1
								C51313	Y2	Q510	Y4
								C51414	Y3	Q511	Y1
								C51515	Y2	Q512	Y4
								C51616	Y3		
								C51717	Y2	(1)	Z1
								C51818	Y3	(2)	Z2
								C51919	Z2	(3)	Z3
								C52020	Z3	(4)	Z3
								C52121	Z1	(5)	Z4
								C52222	Z4	(6)	Y4
								C52323	Z1	(7)	Y3
								C52424	Z4	(8)	Y2
								C52525	Y1		
								C52626	Y4		
								C52727	Z1		
								C52828	Z4		
								C52929	Y1		

PB-755



PB-756



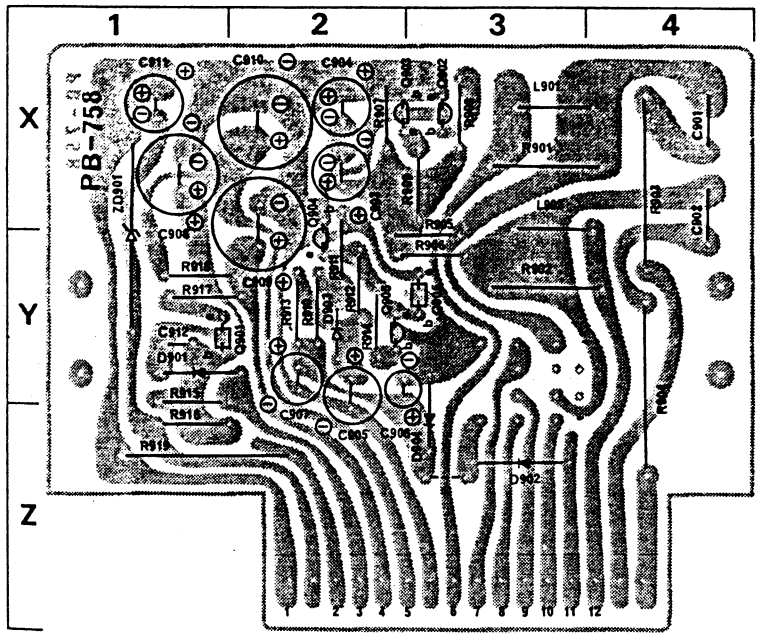
PB-756 Components Location

R701	Y1	R714	Y3	R727	Y1	R740	Z2	R75353	Y4	R766	Z4
R702	Y2	R715	Y1	R728	Z2	R741	Z1	R75454	Z5	R767	Z3
R703	Y1	R716	Y2	R729	Z1	R742	Z3	R75555	Y5	R768	Z3
R704	Y2	R717	Y1	R730	Z2	R743	Z1	R75656	Y5	R769	Y3
R705	Y2	R718	Z2	R731	Z1	R744	Z3	R75757	Y4	R770	Y5
R706	Y3	R719	Y1	R732	Z2	R745	Z1	R75858	Z5	R771	Y3
R707	Y1	R720	Z2	R733	Z1	R746	Z2	R75959	Z5	R772	Y4
R708	Y2	R721	Y1	R734	Z3	R747	Z1	R76060	Z5	R773	Y3
R709	Y1	R722	Y2	R735	Z1	R748	Z2	R76161	Z4	R774	Y4
R710	Y2	R723	Z1	R736	Z3	R749	Z1	R76262	Y5	R775	Y4
R711	Y1	R724	Y2	R737	Z1	R750	Z2	R76363	Z4	R776	Y5
R712	Y2	R725	Y1	R738	Z3	R751	Z5	R76464	Z4	R777	Y3
R713	Z1	R726	Z2	R739	Z1	R752	Z5	R76565	Y4	R778	Y5

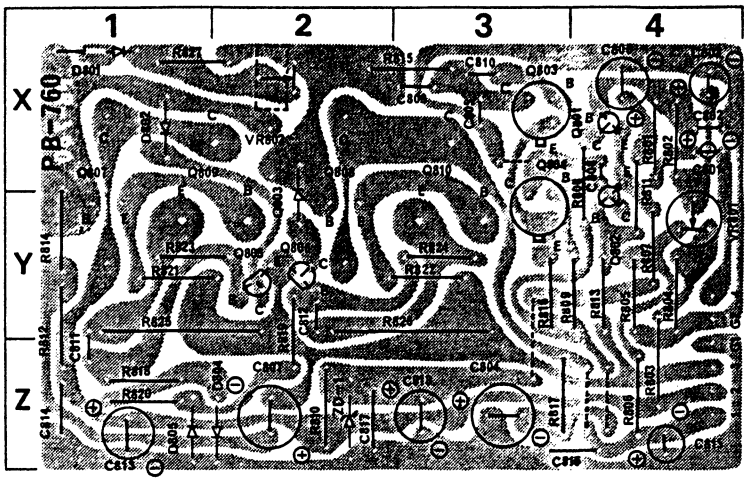
PB-758 Components Location

R901	X3	C907	Y2		
R902	Y3	C908	X1		
R903	X4	C909	X2		
R904	Y4	C910	X2		
R905	Y3	C911	X1		
R906	Y3	C912	X1		
R907	X2				
R908	X3	Q901	Y1		
R909	X3	Q902	X3		
R910	Y2	Q903	X2		
R911	Y2	Q904	Y2		
R912	Y2	Q905	Y2		
R913	Y2	Q906	Y3		
R914	Y2				
R915	Y1	D901	Y1		
R916	Z1	D902	Z3		
R917	Y1	D903	Y2		
R918	Y1	D904	Z3		
R919	Z1				
		ZD901	Y1	(6)	Z3
C901	X4			(7)	Z3
C902	X4	(1)	Z2	(8)	Z3
C903	X2	(2)	Z2	(9)	Z3
C904	X2	(3)	Z2	(10)	Z3
C905	Y2	(4)	Z2	(11)	Z3
C906	Y2	(5)	Z2	(12)	Z3

PB-758



PB-760



PB-760 Component Location

R801	X4	R808	X4	C814	Z1
R802	X4	R809	Y4	C815	Z4
R803	Z4	R810	Z2	C816	Z3
R804	Y4	R811	Y4	C817	Z2
R805	Y4	R812	Y1	C818	Z3
R806	Z4	R813	Y4		
R807	Y4	R814	Y1	VR801	Y4
		R815	X3	VR802	X2
		R816	Y3		
		R817	Z3	Q801	X4
		R818	Z1	Q802	Y4
		R819	Y2	Q803	X3
		R820	Z1	Q804	Y4
		R821	Y1	Q805	Y2
		R822	Y3	Q806	Y2
		R823	Y1	Q807	Y1
		R824	Y3	Q808	Y2
		R825	Y1	Q809	X1
		R826	Y3	Q810	X3
		R827	X1		
				D801	X1
		C801	X4	D802	X1
		C802	X4	D803	Y2
		C803	X4	D804	Z2
		C804	Z3	D805	Z1
		C805	X3		
		C806	X4	ZD-1	Z2
		C807	Z2		
		C808	X4	(1)	Z4
		C809	X3	(2)	Z4
		C810	X3	(3)	Z4
		C811	Z1	(4)	Y4
		C812	Y2		
		C813	Z1	G1	Z4
				G2	Y4

* R779	Y3	C711	Y1	C724	Z3	C737	Z3	C750	Y5	VR701b	Z3
R780	Y4	C712	Y2	C725	Z1	C738	Z3			VR702a	Z5
		C713	Y1	C726	Y3	C739	Y4	Q701	Y1	VR702b	Z5
C701	Y1	C714	Z2	C727	Z1	C740	Y3	Q702	Y2		
C702	Y2	C715	Y1	C728	Y3	C741	Y3	Q703	Y1	(1)	Y1
C703	Y1	C716	Y2	C729	Z5	C742	Y4	Q704	Y2	(2)	Y2
C704	Y3	C717	Z1	C730	Y5	C743	Y3	Q705	Y3	(3)	Y2
C705	Y1	C718	Y2	C731	Z5	C744	Y4			(4)	Y3
C706	Y2	C719	Z1	C732	Z5	C745	Y3	Q707	Y3	(5)	Y4
C707	Y2	C720	Z2	C733	Z3	C746	Y5	Q708	Y4	(6)	Y4
C708	Y3	C721	Z1	C734	Z4	C747	Y4	Q709	Y5	(7)	Y5
C709	Y2	C722	Y2	C735	Z3	C748	Y5			(8)	Y5
C710	Y3	C723	Z1	C736	Z3	C749	Y4	VR701a	Z3	(9)	Y5

REPLACEMENT PARTS

RESISTORS: ± 10% ¼ Watt deposite carbon, unless noted otherwise

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
R001	100Ω	R215	2.2KΩ	R260	4.7KΩ	R351	3.3KΩ
R002	150Ω 7W METAL OXIDE FIXED	R216	47KΩ	R261	3.9KΩ	R352	6.8KΩ
		R217	390Ω	R262	3.9KΩ	R353	1MΩ
R003	180KΩ	R218	1KΩ	R263	47Ω	R354	1MΩ
R004	180KΩ	R219	1KΩ	R264	100Ω	R355	330KΩ
R005	180KΩ	R220	1KΩ	R265	39KΩ	R356	820KΩ
R006	180KΩ	R221	47Ω	R266	100KΩ	R357	1KΩ
R007	680Ω 2W METAL OXIDE FIXED	R222	100Ω	R267	3.3KΩ	R358	5.6KΩ
		R223	6.8KΩ	R268	3.3KΩ	R359	12KΩ
R008	680Ω 2W METAL OXIDE FIXED	R224	6.8KΩ	R269	220KΩ	R360	1MΩ
		R225	22KΩ	R270	220KΩ	R361	10KΩ
R009	10Ω	R226	3.3KΩ	R271	1MΩ	R362	220KΩ
R010	150Ω	R227	1KΩ	R272	1MΩ		
R011	2.2MΩ ½W Ⓤ MODEL ONLY	R228	4.7KΩ	R273	220KΩ	R401	4.7KΩ
		R229	560Ω	R274	220KΩ	R402	18KΩ
R012	2.2MΩ ½W Ⓤ MODEL ONLY	R230	10KΩ	R275	100KΩ	R403	1.5KΩ
		R231	100KΩ	R276	33KΩ	R404	22KΩ
		R232	15KΩ	R277	33KΩ	R405	10KΩ
R101	100KΩ	R233	2.2KΩ	R278	33KΩ	R406	15KΩ
R102	22Ω	R234	1KΩ	R279	150KΩ	R407	2.2KΩ
R103	22KΩ	R235	15KΩ	R280	150KΩ	R408	2.2KΩ
R104	4.7KΩ	R236	1KΩ	R281	100KΩ	R409	150KΩ
R105	1KΩ	R237	1KΩ	R282	18KΩ	R410	1.5KΩ
R106	220Ω	R238	10Ω	R283	1.2KΩ	R411	2.7KΩ
R107	1MΩ	R239	1KΩ	R284	1.2KΩ	R412	470Ω
R108	100Ω	R240	47KΩ	R285	10KΩ	R413	470Ω
R109	10KΩ	R241	22Ω	R286	10KΩ	R414	120Ω
R110	10KΩ	R242	33KΩ	R287	470KΩ	R415	150KΩ
R111	100Ω	R243	33KΩ	R288	470KΩ	R416	100Ω
R112	3.3KΩ	R244	100KΩ	R289	470Ω	R417	10KΩ
		R245	100KΩ	R290	10Ω	R418	150KΩ
R201	1.8KΩ	R246	39Ω	R291	100KΩ	R419	10KΩ
R202	560Ω	R247	39Ω	R292	47KΩ	R420	82KΩ
R203	1KΩ	R248	2.7KΩ	R293	6.8KΩ	R421	100Ω
R204	470Ω	R249	2.7KΩ	R294	2.2KΩ	R422	22KΩ
R205	1.5KΩ	R250	47KΩ	R295	10KΩ	R423	100Ω
R206	2.2KΩ	R251	4.7KΩ	R296	39KΩ	R433	10KΩ
R207	680Ω	R252	47KΩ	R297	15KΩ	R434	3.9KΩ
R208	1KΩ	R253	2.2KΩ 1W	R298	15KΩ	R435	3.3KΩ
R209	470Ω	R254	12KΩ	R299	2.2KΩ	R436	10KΩ
R210	560Ω	R255	47KΩ	R300	6.8KΩ	R437	470Ω
R211	470Ω	R256	220Ω	R301	390Ω ½W	R438	3.9KΩ
R212	22KΩ	R257	100KΩ	R302	6.8KΩ	R439	1.5KΩ
R213	470Ω	R258	8.2KΩ			R440	150KΩ
R214	470Ω	R259	47KΩ				

RESISTORS: ± 5% TOLERANCE ¼ Watt deposited carbon, unless specified

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
R451	4.7K	R464	8.2K	R508	18K	R517	180
R452	4.7K			R509	82K	R518	180
R453	470K	R501	100K	R510	82K	R519	LO–NOISE 39K
R454	470K	R502	100K	R511	LO–NOISE 47K		
R455	680K	R503	LO–NOISE 330K			R520	LO–NOISE 39K
R456	680K			R512	LO–NOISE 47K		
R457	33K	R504	LO–NOISE 330K			R521	LO–NOISE 470K
R458	33K			R513	1K		
R459	10K	R505	LO–NOISE 560K	R514	1K	R522	LO–NOISE 470K
R460	10K			R515	LO–NOISE 3.9K		
R461	470K	R506	LO–NOISE 560K			R523	1K
R462	470K			R516	LO–NOISE 3.9K	R524	1K
R463	8.2K	R507	18K			R525	1K

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
R526	1K	R606	½W 390	R733	1.8K	R807	8.2K X 2
R527	LO–NOISE 33K	R607	100	R734	1.8K	R808	3.9K X 2
				R735	6.8K	R809	3.9K X 2
R528	LO–NOISE 33K	R651	56K	R736	6.8K	R810	METAL OXIDE 5.6K-½W X 2
R529	68K	R652	56K	R737	22K		
R530	68K	R653	220K	R738	22K	R811	1.2K X 2
R531	10K	R654	220K	R739	6.8K	R812	METAL OXIDE 5.6K-½W X 2
R532	10K	R655	12K	R740	6.8K		
R533	150K	R656	12K	R741	27K	R813	47K X 2
R534	150K	R657	27K	R742	27K	R814	METAL OXIDE 3.9K-½W X 2
R535	100K	R658	27K	R743	4.7K		
R536	100K	R659	1M	R744	4.7K	R815	METAL OXIDE 22-½W X 2
R537	LO–NOISE 560K	R660	1M	R745	6.8K		
		R661	1M	R746	6.8K	R816	METAL OXIDE 180-½W X 2
R538	LO–NOISE 560K	R662	1M	R747	470K		
		R663	330K	R748	470K	R817	METAL OXIDE 47-½W X 2
R539	LO–NOISE 560K	R664	330K	R749	470K		
		R665	560K	R750	470K	R818	1K X 2
R540	LO–NOISE 560K	R666	560K	R751	1.5K	R819	1K X 2
		R667	5.6K	R752	1.5K	R820	100K X 2
R541	12K	R668	5.6K	R753	1.5K	R821	METAL OXIDE 100-½W X 2
R542	12K	R669	330K	R754	1.5K		
R543	LO–NOISE 3.9K	R670	330K	R755	18K	R822	METAL OXIDE 100-½W X 2
		R671	1K	R756	18K		
R544	LO–NOISE 3.9K			R757	18K	R823	180 X 2
		R701	4.7K	R758	18K	R824	180 X 2
R545	180	R702	4.7K	R759	3.3K	R825	CEMENT SEALED 0.47-5W X 2
R546	180	R703	82K	R760	3.3K		
R547	68K	R704	82K	R761	1M	R826	CEMENT SEALED 0.47-5W X 2
R548	68K	R705	4.7K	R762	1M		
R549	LO–NOISE 47K	R706	4.7K	R763	1M	R827	120 X 2
		R707	22K	R764	1M		
R550	LO–NOISE 47K	R708	22K	R765	1M	R901	METAL OXIDE 22-1W
		R709	1.2M	R766	1M		
R551	1K	R710	1.2M	R767	4.7K	R902	METAL OXIDE 22-1W
R552	1K	R711	2.7K	R768	4.7K		
R553	470	R712	2.7K	R769	47K	R903	METAL OXIDE 4.7-3W
R554	470	R713	220K	R770	47K		
R555	LO–NOISE 22K	R714	220K	R771	820	R904	METAL OXIDE 4.7-3W
		R715	33K	R772	820		
R556	LO–NOISE 22K	R716	33K	R773	150K	R905	39K
		R717	27K	R774	150K	R906	39K
R557	LO–NOISE 220K	R718	27K	R775	5.6K	R907	3.9K
		R719	12K	R776	5.6K	R908	6.8K
R558	LO–NOISE 220K	R720	12K	R777	470	R909	22K
		R721	390K	R778	470	R910	6.8K
R559	68K	R722	390K	R779	1K	R911	820
R560	68K	R723	56K	R780	100	R912	10
R561	10K	R724	56K			R913	1M
R562	10K	R725	33K	R801	3.9K X 2	R914	22K
		R726	33K	R802	47K X 2	R915	10K
R601	12K	R727	18K	R803	METAL OXIDE 10K-½W X 2	R916	100K
R602	12K	R728	18K			R917	82
R603	27K	R729	1M	R804	47 X 2	R918	820
R604	27K	R730	1M	R805	47 X 2	R919	METAL OXIDE 56-2W
R605	1W 300	R731	1M	R806	METAL OXIDE 10K-½W X 2		
		R732	1M				

CAPACITORS

SYMBOL NO.	DESCRIPTION
C001	0.04μF +80% −20% 25V ceramic
C002	10μF +50% −10% 16V electrolytic
C003	5PF ±0.5PF 50V ceramic
C004	47μF +50% −10% 16V electrolytic
C005	4700μF +50% −10% 63V electrolytic
C006	4700μF +50% −10% 63V electrolytic
C007	0.1μF +80% −20% 25V ceramic
C008	0.1μF +80% −20% 25V ceramic
C009	0.1μF +80% −20% 25V ceramic
C010	0.1μF +80% −20% 25V ceramic
C011	1500μF +50% −10% 50V electrolytic
C012	3300μF +50% −10% 25V electrolytic

SYMBOL NO.	DESCRIPTION
C013	0.01μF
C014	0.01μF
C015	0.01μF
C016	0.01μF
C017	0.01μF
C018	0.01μF
	Ⓢ MODEL ±20% 250V MP type Ⓔ Ⓤ MODEL +80% −20% 150V ceramic
C019	2200PF
C020	2200PF
C021	0.047μF
C022	0.047μF
	Ⓢ Ⓔ MODEL ±20% 250V MP type Ⓤ MODEL +80% −20% 150V ceramic or MP type (C022 Ⓢ Ⓔ MODEL ONLY)
C023	0.1μF +80% −20% 25V ceramic

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
C101	22PF	C106	100PF
C102	47PF	C107	5000PF
C103	22PF	C108	100PF
C104	22PF	C109	100PF
C105	7PF	C110	5000PF

SYMBOL NO.	DESCRIPTION	SYMBOL NO.	DESCRIPTION
C111	0.01μF	C116	33PF
C112	5000PF	C117	5000PF
C113	1PF	C118	5000PF
C114	20PF	C119	5000PF
C115	10PF		

SYMBOL NO.	DESCRIPTION
C201	0.01μF +80% −20% 25V ceramic
C202	0.04μF +80% −20% 25V ceramic
C203	0.04μF +80% −20% 25V ceramic
C204	47PF ±10% 50V ceramic
C205	0.04μF +80% −20% 25V ceramic
C206	0.01μF +80% −20% 25V ceramic
C207	2.7PF ±5% 500V ceramic
C208	0.04μF +80% −20% 25V ceramic
C209	470PF ±20% 50V ceramic
C210	0.04μF +80% −20% 25V cramic
C211	0.01μF +80% −20% 25V ceramic
C212	0.04μF +80% −20% 25V ceramic
C213	0.04μF +80% −20% 25V ceramic
C214	0.04μF +80% −20% 25V ceramic
C215	0.04μF +80% −20% 25V ceramic
C216	0.04μF +80% −20% 25V ceramic
C217	0.04μF +80% −20% 25V ceramic
C218	470PF ±20% 50V ceramic
C219	100PF ±10% 50V ceramic
C220	470PF ±20% 50V ceramic
C221	470PF ±20% 50V ceramic
C222	470PF ±20% 50V ceramic
C223	0.04μF +80% −20% 25V ceramic
C224	0.04μF +80% −20% 25V ceramic
C225	470PF ±20% 50V ceramic
C226	0.01μF +80% −20% 25V ceramic
C227	0.04μF +80% −20% 25V ceramic
C228	0.01μF +80% −20% 25V ceramic
C229	0.01μF +80% −20% 25V ceramic
C230	0.47PF ±5% 500V ceramic
C231	470PF ±20% 50V ceramic
C232	0.04μF +80% −20% 25V ceramic
C233	0.04μF +80% −20% 25V ceramic
C234	0.01μF +80% −20% 25V ceramic
C235	0.01μF +80% −20% 25V ceramic
C236	0.1μF +80% −20% 25V ceramic
C237	2.2μF +75% −10% 25V electrolytic
C238	0.1μF +80% −20% 25V ceramic
C239	0.1μF +80% −20% 25V ceramic
C241	10μF +50% −10% 16V electrolytic
C242	4.7μF +75% −10% 25V electrolytic

SYMBOL NO.	DESCRIPTION
C243	0.04μF +80% −20% 25V ceramic
C244	1μF +75% −10% 50V electrolytic
C245	560PF ±5% 50V polystyrol
C246	10μF +50% −10% 16V electrolytic
C247	4.7μF +75% −10% 25V electrolytic
C248	4.7μF +75% −10% 25V electrolytic
C249	4.7μF +75% −10% 25V electrolytic
C250	470μF +50% −10% 16V electrolytic
C251	0.22μF +50% −20% 35V solid tantalum
C252	0.22μF +50% −20% 35V solid tantalum
C253	470PF ±20% 50V ceramic
C254	470PF ±20% 50V ceramic
C255	10μF +50% −10% 16V electrolytic
C256	1800PF ±5% 50V polystyrol
C257	1800PF ±5% 50V polystyrol
C258	820PF ±5% 50V polystyrol
C259	820PF ±5% 50V polystyrol
C260	0.22μF +50% −20% 35V solid tantalum
C261	0.22μF +50% −20% 35V solid tantalum
C262	10μF +50% −10% 16V electrolytic
C263	47μF +50% −10% 16V electrolytic
C264	1μF +75% −10% 50V electrolytic
C265	1μF +75% −10% 50V electrolytic
C266	0.01μF +80% −20% 25V ceramic
C267	0.01μF +80% −20% 25V ceramic
C268	0.01μF +80% −20% 25V ceramic
C269	0.01μF +80% −20% 25V ceramic
C351	0.04μF +80% −20% 25V ceramic
C352	0.015μF ±10% 50V mylar
C353	0.01μF ±10% 50V mylar
C354	3300PF ±10% 50V mylar
C355	2200PF ±10% 50V mylar
C356	2200PF ±10% 50V mylar
C357	3900PF ±10% 50V mylar
C358	0.033μF ±10% 50V mylar
C401	0.04μF +80% −20% 25V ceramic
C402	0.04μF +80% −20% 25V ceramic
C403	47μF +50% −10% 16V electrolytic

SYMBOL NO.	DESCRIPTION
C404	47μF +50% −10% 16V electrolytic
C405	0.04μF +80% −20% 25V ceramic
C406	10PF ±1PF 50V ceramic
C407	0.04μF +80% −20% 25V ceramic
C408	0.04μF +80% −20% 25V ceramic
C409	0.04μF +80% −20% 25V ceramic
C410	450PF ±5% 50V polystyrol
C411	15PF ±10% 50V ceramic
C412	0.04μF +80% −20% 25V ceramic
C413	0.04μF +80% −20% 25V ceramic
C414	0.04μF +80% −20% 25V ceramic
C415	0.04μF +80% −20% 25V ceramic
C416	0.04μF +80% −20% 25V ceramic
C417	0.04μF +80% −20% 25V ceramic
C418	0.1μF +80% −20% 25V ceramic
C419	0.04μF +80% −20% 25V ceramic
C420	0.04μF +80% −20% 25V ceramic
C425	0.04μF +80% −20% 25V ceramic
C426	2.2μF +75% −10% 25V electrolytic
C427	100PF ±10% 50V ceramic
C428	0.04μF +80% −20% 25V ceramic
C429	3300PF ±5% 50V polystyrol
C430	3300PF ±5% 50V polystyrol
C451	1μF ±20% 35V solid tantalum
C452	1μF ±20% 35V solid tantalum
C453	0.33μF ±20% 35V solid tantalum
C454	0.33μF ±20% 35V solid tantalum
C455	10μF +50% −10% 50V electrolytic
C501	2.2μF ±20% 10V solid tantalum
C502	2.2μF ±20% 10V solid tantalum
C503	47PF ±10% 50V ceramic
C504	47PF ±10% 50V ceramic
C505	150PF ±10% 50V ceramic
C506	150PF ±10% 50V ceramic
C507	33μF +50% −10% 16V electrolytic
C508	33μF +50% −10% 16V electrolytic
C509	1800PF ±10% 50V mylar
C510	1800PF ±10% 50V mylar
C511	6800PF ±10% 50V mylar
C512	6800PF ±10% 50V mylar
C513	22μF +50% −10% 16V electrolytic
C514	22μF +50% −10% 16V electrolytic
C515	180PF ±5% 50V polystyrol
C516	180PF ±5% 50V polystyrol
C517	0.33μF ±20% 35V tantalum
C518	0.33μF ±20% 35V tantalum
C519	100μF +50% −10% 10V electrolytic
C520	100μF +50% −10% 10V electrolytic
C521	2.2μF ±20% 10V tantalum
C522	2.2μF ±20% 10V tantalum
C523	47PF ±10% 50V ceramic
C524	47PF ±10% 50V ceramic
C525	33μF +50% −10% 16V electrolytic
C526	33μF +50% −10% 16V electrolytic
C527	100μF +50% −10% 10V electrolytic
C528	100μF +50% −10% 10V electrolytic
C529	33μF +50% −10% 16V electrolytic
C530	33μF +50% −10% 16V electrolytic
C531	0.33μF ±20% 35V tantalum
C532	0.33μF ±20% 35V tantalum
C533	33μ +50% −10% 16V electrolytic
C534	33μ +50% −10% 16V electrolytic
C535	0.04 +80% −20% 50V ceramic
C601	0.033μF ±10% 50V mylar
C602	0.033μF ±10% 50V mylar
C603	470PF ±5% 50V polystyrol
C604	470PF ±5% 50V polystyrol
C605	10μF +50% −10% 16V electrolytic
C651	0.1μF ±10% 50V mylar
C652	0.1μF ±10% 50V mylar
C653	0.039μF ±10% 50V mylar
C654	0.039μF ±10% 50V mylar
C655	2.2μF ±10% 35V tantalum
C656	2.2μF ±10% 35V tantalum
C657	820PF ±10% 50V mylar
C658	820PF ±10% 50V mylar
C659	2200PF ±5% 50V polystyrol
C660	2200PF ±5% 50V polystyrol
C661	2.2μF ±10% 35V tantalum
C662	2.2μF ±10% 35V tantalum
C663	100μF +50% −10% 25V electrolytic
C664	100μF +50% −10% 25V electrolytic
C701	1μF ±10% 10V tantalum
C702	1μF ±10% 10V tantalum
C703	100μF +50% −10% 25V electrolytic
C704	100μF +50% −10% 25V electrolytic
C705	10P ±10% 50V ceramic
C706	10P ±10% 50V ceramic
C707	2.2μF ±10% 25V tantalum
C708	2.2μF ±10% 25V tantalum
C709	22μF +50% −10% 16V electrolytic
C710	22μF +50% −10% 16V electrolytic
C711	10μF ±10% 10V tantalum
C712	10μF ±10% 10V tantalum
C713	0.015μF ±10% 50V mylar
C714	0.015μF ±10% 50V mylar
C715	100PF ±10% 50V ceramic
C716	100PF ±10% 50V ceramic
C717	1000PF ±10% 50V mylar
C718	1000PF ±10% 50V mylar
C719	0.022μF ±10% 50V mylar
C720	0.022μF ±10% 50V mylar
C721	0.047μF ±10% 50V mylar
C722	0.047μF ±10% 50V mylar
C723	1000PF ±10% 50V mylar
C724	1000PF ±10% 50V mylar
C725	6800PF ±10% 50V mylar
C726	6800PF ±10% 50V mylar
C727	0.068μF ±10% 50V mylar
C728	0.068μF ±10% 50V mylar
C729	1800PF ±10% 50V mylar
C730	1800PF ±10% 50V mylar
C731	3900PF ±10% 50V mylar
C732	3900PF ±10% 50V mylar
C733	1000PF ±10% 50V mylar
C734	1000PF ±10% 50V mylar
C735	1000PF ±10% 50V mylar
C736	1000PF ±10% 50V mylar
C737	0.022μF ±10% 50V mylar
C738	0.022μF ±10% 50V mylar
C739	0.027μF ±10% 50V mylar
C740	0.027μF ±10% 50V mylar
C741	10μF ±10% 10V tantalum
C742	10μF ±10% 10V tantalum
C743	4.7P ±10% 50V ceramic
C744	4.7P ±10% 50V ceramic
C745	33P ±10% 50V ceramic
C746	33P ±10% 50V ceramic
C747	2.2μF ±10% 25V tantalum

SYMBOL NO.	DESCRIPTION
C748	2.2μF ±10% 25V tantalum
C749	47μF +50% −10% 50V electrolytic
C750	47μF +50% −10% 50V electrolytic
C801	4.7μF X 2 ±10% 10V tantalum
C802	470PF X 2 ±10% 50V ceramic
C803	33μF X 2 +50% −10% 10V electrolytic
C804	100μF X 2 +50% −10% 63V electrolytic
C805	47P X 2 ±10% 50V ceramic
C806	47μF X 2 +50% −10% 16V electrolytic
C807	100μF X 2 +50% −10% 50V electrolytic
C808	1000P X 2 ±10% 50V mylar
C809	1000PF X 2 ±10% 50V mylar
C810	47PF ±10% 50V ceramic
C811	.022μF X 2 ±10% 50V mylar
C812	.022μF X 2 ±10% 50V mylar
C813	1μF x 2 +50% −10% 100V electrolytic
C814	.01μF X 2 500V ceramic

SYMBOL NO.	DESCRIPTION
C815	1μF X 2 +50% −10% 100V electrolytic
C816	.01μF X 2 500V ceramic
C817	.04μF X 2 +80% −20% 50V ceramic
C818	47μF X 2 +50% −10% 16V electrolytic
C901	0.22μF ±10% 50V ceramic
C902	0.22μF ±10% 50V ceramic
C903	220μF +50% −10% 10V electrolytic
C904	220μF +50% −10% 10V electrolytic
C905	100μF +50% −10% 10V electrolytic
C906	4.7μF +50% −10% 50V electrolytic
C907	22μF +50% −10% 50V electrolytic
C908	100μF +50% −10% 50V electrolytic
C909	330μF +50% −10% 35V electrolytic
C910	330μF +50% −10% 35V electrolytic
C911	220μF +50% −10% 16V electrolytic
C912	100P ±10% 50V ceramic

TRANSISTORS & IC

SYMBOL NO.	DESCRIPTION	
Q101	FM RF AMPLIFIER	3SK30, 2SK19
Q102	FM MIXER	2SC535
Q103	FM LOCAL OSCILATOR	SE3001
Q201	FM IF AMPLIFIER	2SC381
Q202	FM IF AMPLIFIER	2SC381
Q203	FM IF AMPLIFIER & LIMITTER	LM703
Q204	FM LIMITTER	TA7061AP
Q205	FM AGC AMPLIFIER	2SC381
Q206	FM SIGNAL METER AMPLIFIER	2SC381
Q207	FM MUTING DC AMPLIFIER	2SC372
Q208	WIRED OR GATE FOR FM MUTING	2SC372
Q209	FM MUTING DC AMPLIFIER	2SC1000
Q210	FM MUTING DC AMPLIFIER	2SA640
Q211	FM MUTING DC AMPLIFIER	2SC372
Q212	FM MUTING DC AMPLIFIER	2SC372
Q213	WIRED OR GATE FOR FM MUTING	2SC372
Q214	FM STEREO DEMODULATOR	μPC554C
Q215	FM MUTING	2SK30
Q216	FM MUTING	2SK30
Q217	FM OUTPUT AMPLIFIER	2SC1000
Q218	FM OUTPUT AMPLIFIER	2SC1000
Q219	ACTIVE DUMMY LOAD	2SC735
Q351	AM NOISE FILTER AMPLIFIER	2SC372
Q401	AM RF AMPLIFIER	2SC381
Q402	AM MIXER & OSCILATOR	2SC372
Q403	AM IF AMPLIFIER	2SC381
Q404	AM IF AMPLIFIER	2SC372
Q451	MIC MIXER AMP	2SC1345
Q452	MIC MIXER AMP	2SC1345
Q501	PHONO AMP	2SC1345
Q502	PHONO AMP	2SC1345
Q503	PHONO AMP	2SA640
Q504	PHONO AMP	2SA640

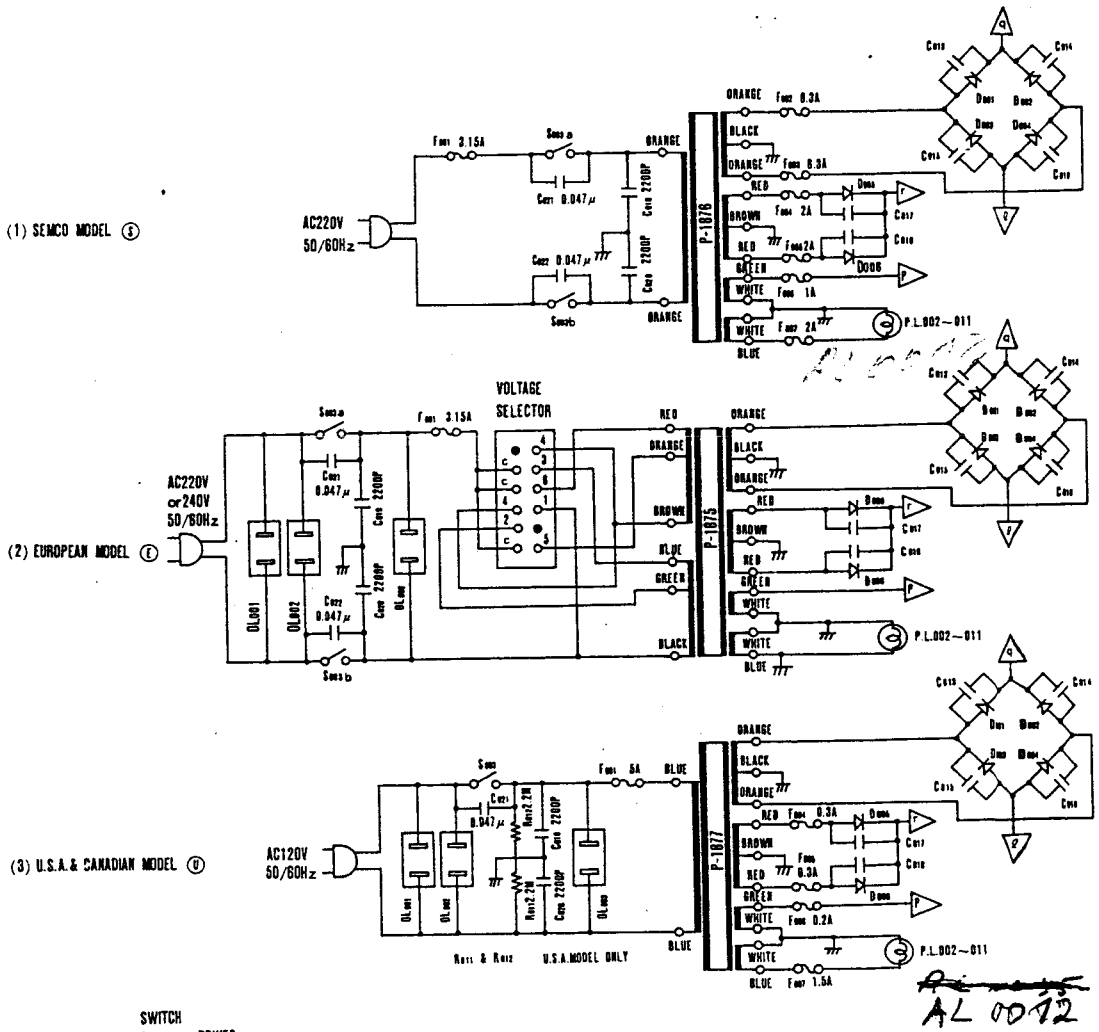
SYMBOL NO.	DESCRIPTION	
Q801	POWER AMP	2SA620 X 2
Q802	POWER AMP	2SA620 X 2
Q803	POWER AMP	2SC1103A X 2
Q804	POWER AMP	2SC1103A X 2
Q805	POWER AMP	2SC945 X 2
Q806	POWER AMP	2SA733 X 2
Q807	POWER AMP	2SC1431 X 2
Q808	POWER AMP	2SA762 X 2
Q809	POWER AMP	2SC1079 X 2
Q810	POWER AMP	2SA679 X 2
Q901	POWER SUPPLY	2SC1382
Q902	PROTECTION CIRCUIT	2SC945
Q903	PROTECTION CIRCUIT	2SC945
Q904	PROTECTION CIRCUIT	2SA733
Q905	PROTECTION CIRCUIT	2SC1382
Q906	PROTECTION CIRCUIT	2SC945
Q505	PHONO AMP	2SC1345
Q506	PHONO AMP	2SC1345
Q507	MIC AMP	2SC1345
Q508	MIC AMP	2SC1345
Q509	MIC AMP	2SA640
Q510	MIC AMP	2SA640
Q511	MIC AMP	2SC1345
Q512	MIC AMP	2SC1345
Q651	FILTER AMP	2SC1345
Q652	FILTER AMP	2SC1345
Q701	LINEAR EQ AMP	2SC1345
Q702	LINER EQ AMP	2SC1345
Q703	LINER EQ AMP	2SC1345
Q704	LINER EQ AMP	2SC1345
Q705	TONE AMP	2SC1345
Q706	TONE AMP	2SC1345
Q707	TONE AMP	2SC1345
Q708	TONE AMP	2SC1345

■ POWER SUPPLY DIAGRAM FOR THE THREE MODELS

(1) SEMCO MODEL (S)

(2) EUROPEAN MODEL (E)

(3) U.S.A.& CANADIAN MODEL (U)



SWITCH
S003-----POWER

C013~C018 0.01μF
D001~D004 HI-FI SPECIAL
D005~D006 IN4003

AL 0012

DIODES

SYMBOL NO.	DESCRIPTION	
D001	RECTIFIER	HIFI SPECIAL
D002	RECTIFIER	HIFI SPECIAL
D003	RECTIFIER	HIFI SPECIAL
D004	RECTIFIER	HIFI SPECIAL
D005	RECTIFIER	IN4003
D006	RECTIFIER	IN4003
D201	CHECK POINT DETECTOR	IS188
D202	FM LIMITTER	IS188
D203	CHECK POINT DETECTOR	IS188
D204	FM RATIO DETECTOR	IS188
D205	FM RATIO DETECTOR	IS188
D206	AGC DETECTOR	IS188
D207	AGC DETECTOR	IS188
D208	FM METER DETECTOR	IS188
D209	VOLTAGE STABILIZER	WZ120
D210	TEMPERATURE COMPENSATION	KB165
D211	NEGATIVE VOLTAGE PROTECTION	IS1554V
D402	TEMPERATURE COMPENSATION	KB265
D403	TEMPERATURE COMPENSATION	KB165
D404	AGC DETECTOR	IS1554V

SYMBOL NO.	DESCRIPTION	
D405	AUDIO & METER DETECTOR	IS188
D406	METER PROTECTION	IS1554V
D801	POWER AMPLIFIER	SV-03 X 2
D802	POWER AMPLIFIER	IS1554 X 2
D803	POWER AMPLIFIER	IS1554 X 2
D804	POWER AMPLIFIER	IS1554 X 2
D805	POWER AMPLIFIER	IS1554 X 2
D901	POWER SUPPLY	IN4003
D902	PROTECTION CIRCUIT	IN4003
D903	PROTECTION CIRCUIT	IS188
D904	PROTECTION CIRCUIT	IN4002

ZENER DIODES

SYMBOL NO.	DESCRIPTION	
ZD801	VOLTAGE BEGULATOR	CZ-119 X 2
ZD901	VOLTAGE BEGULATOR	CZ-119

VARIABLE RESISTORS

SYMBOL NO.		DESCRIPTION
VR001	500Ω-B	FOR FM MUTING LEVEL
VR002	200KΩ-B X 2	FOR VOLUME CONTROL
VR201	4.7KΩ-B	FOR FM IF GAIN
VR202	4.7KΩ-B	FOR FM SIGNAL METER SWING
VR203	4.7KΩ-B	FOR FM STEREO SEPARATION

SYMBOL NO.		DESCRIPTION
VR401	1KΩ-B	FOR AM AGC SETTING
VR451	100KΩ-A X 2	FOR MIC-MIXING
VR701	100KΩ-B X 2	FOR BASS CONTROL
VR702	50KΩ-B X 2	FOR TREBLE CONTROL
VR801	4.7KΩ-B (X 2)	FOR POWER AMP
VR802	330Ω-B (X 2)	FOR POWER AMP

SWITCHES

SYMBOL NO.			DESCRIPTION
S001	4-8-6	ROTARY SW	FUNCTION
S002	2-4-6	ROTARY SW	SPEAKER
S003	2-2	PUSH SW (Ⓢ, Ⓔ MODEL)	POWER
SP 0025	1-1	PUSH SW (Ⓤ MODEL)	
		PUSH SW (Ⓔ MODEL)	
S201	2-2	SLIDE SW	DE EMPHASIS
S351	4-2	SLIDE SW	AM NOSE FILTER
S601	2-2	PUSH SW	LOUDNESS
S602	2-2	PUSH SW	MUTING

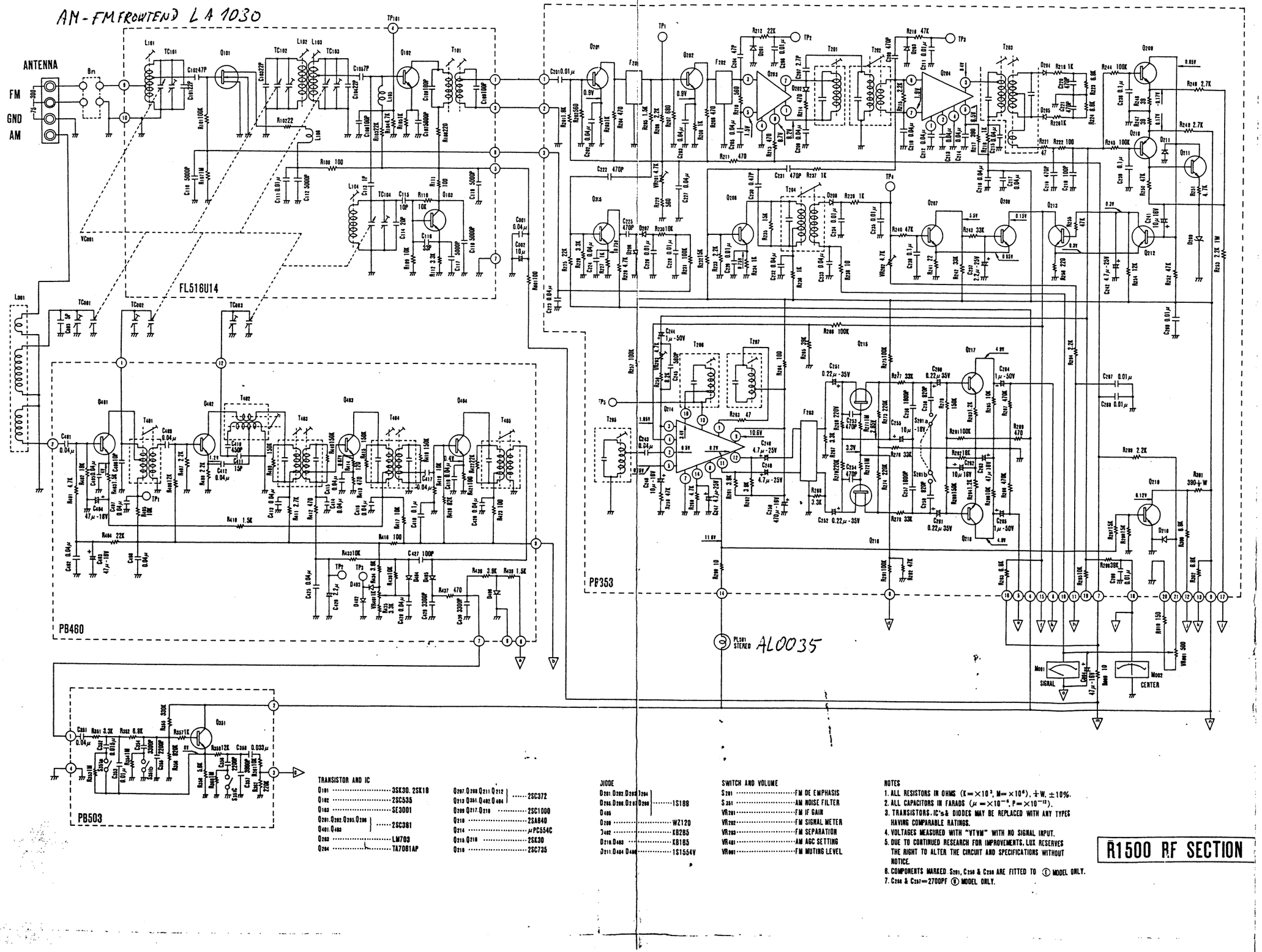
SYMBOL NO.			DESCRIPTION
S603	2-2	PUSH SW	STEREO ONLY
S651	2-2	PUSH SW	LOW CUT
S652	4-2	PUSH SW	HI CUT
S701	2-4-5	ROTARY SW	LINEAR EQUALIZER
S702	2-3	LEVER SW	BASS
S703	2-3	LEVER SW	TREBLE
S751	2-2	PUSH & PULL SW	MIC-MIXING
S901	2-3	LEVER SW	MONITOR
S902	4-3	LEVER SW	DUBBING
S903	3-3	LEVER SW	MODE

TRANSFORMERS & FILTERS

SYMBOL NO.	DESCRIPTION	
T001	POWER TRANS	P-1875 Ⓔ MODEL P-1876 Ⓢ MODEL P-1877 Ⓤ MODEL
T101	FM IF TRANS	
T201	FM IF TRANS	TKAC-14733K
T202	FM IF TRANS	TKAC-14733K
T203	FM DESCRIMINATOR TRANS	V4FCC-20693BCV

SYMBOL NO.	DESCRIPTION	
T204	FM METER TRANS	TKAC-14733K
T205	19KHz TRANS	02-1138
T206	38KHz TRANS	02-1139
T207	19KHz TRANS	02-1138
T401	AM RF TRANS	YXR-19030BD
T402	AM OSCILATOR TRANS	YXR-18909GN
T403	AM IF TRANS	V6AQC-20025AA

■ RF SECTION



TRANSISTOR AND IC

Q101	3SK30. 2SK19
Q102	2SC535
Q103	SE3001
Q201, Q202, Q205, Q206, Q401, Q403	2SC381
Q203	LM703
Q204	TA7061AP
Q207, Q208, Q211, Q212, Q213, Q351, Q402, Q404	2SC372
Q209, Q217, Q218	2SC1000
Q210	2SA840
Q214	μPC554C
Q215, Q216	2SK30
Q219	2SC735

DIODE

D201, D202, D203, D204, D205, D206, D207, D208, D406	1S188
D209	WZ120
D402	K6265
D210, D403	K6185
D211, D404, D405	1S1554V

SWITCH AND VOLUME

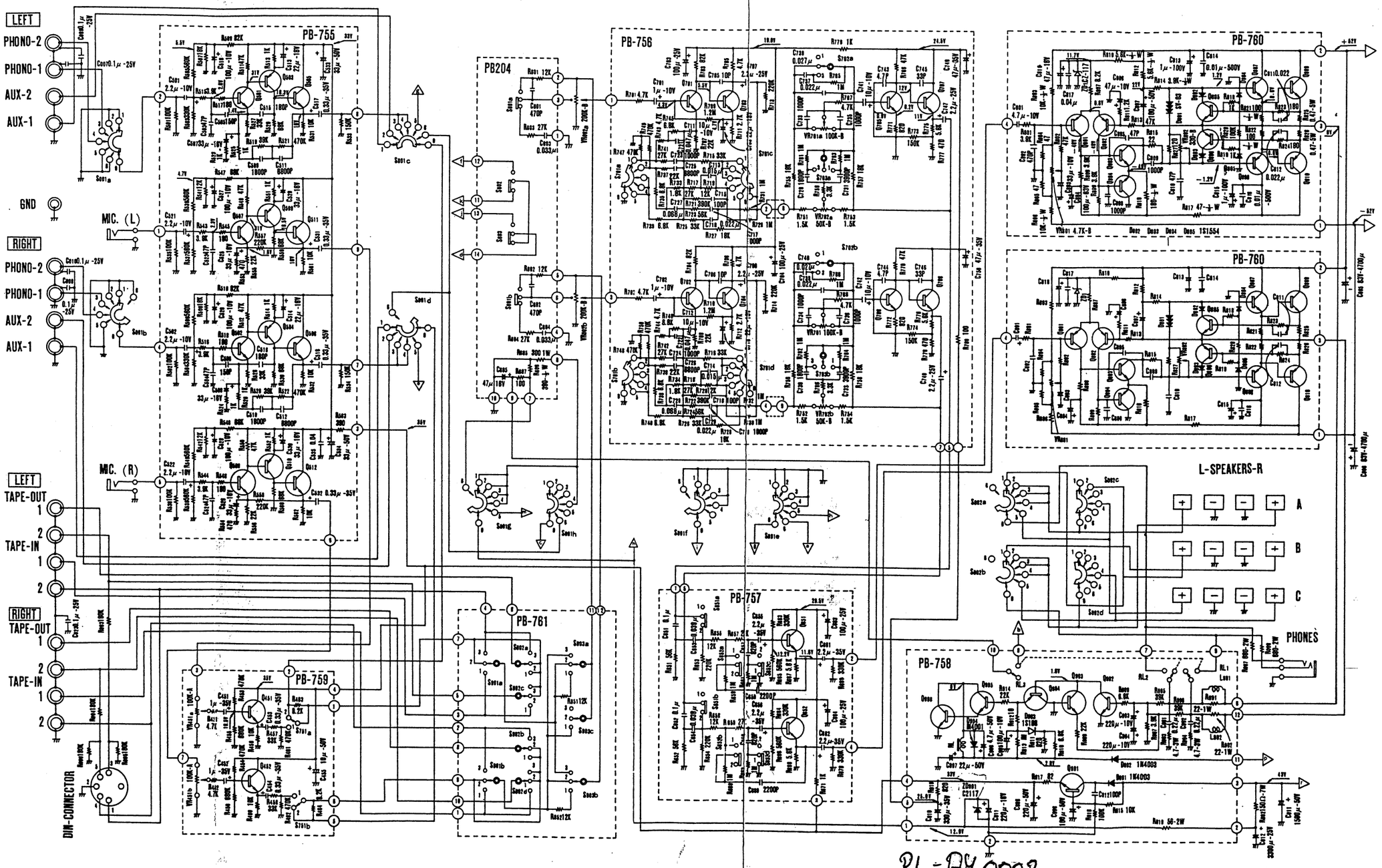
S201	FM DE EMPHASIS
S351	AM NOISE FILTER
VR201	FM IF GAIN
VR202	FM SIGNAL METER
VR203	FM SEPARATION
VR401	AM AGC SETTING
VR901	FM MUTING LEVEL

NOTES

1. ALL RESISTORS IN OHMS (K=×10³, M=×10⁶), ±W, ±10%.
2. ALL CAPACITORS IN FARADS (μ=×10⁻⁶, P=×10⁻¹²).
3. TRANSISTORS, IC's & DIODES MAY BE REPLACED WITH ANY TYPES HAVING COMPARABLE RATINGS.
4. VOLTAGES MEASURED WITH "VTVM" WITH NO SIGNAL INPUT.
5. DUE TO CONTINUED RESEARCH FOR IMPROVEMENTS, LUX RESERVES THE RIGHT TO ALTER THE CIRCUIT AND SPECIFICATIONS WITHOUT NOTICE.
6. COMPONENTS MARKED S201, C258 & C259 ARE FITTED TO (E) MODEL ONLY.
7. C256 & C257=2700PF (E) MODEL ONLY.

R1500 RF SECTION

■ AUDIO SECTION



RL-RY0002

SWITCH

S_{001a}–$_{001b}$	FUNCTION	①AUX-1, ②AUX-2, ③PHONO-1, ④PHONO-2, ⑤FM, ⑥AM
S_{002a}–$_{002d}$	SPEAKERS	①B, ②A+B, ③A, ④A+C, ⑤C, ⑥OFF
S_{003a}, S_{003b}	LOUDNESS	①ON, ②OFF
S_{004}	MUTING	①ON, ②OFF
S_{005}	STEREO ONLY	①ON, ②OFF
S_{751a}, S_{751b}	MIC-MIXING	①ON, ②OFF
S_{701a}–S_{701d}	LINEAR-EQUALIZER	①& ②up-tilt, ③FLAT, ④& ④down-tilt
S_{702a}, S_{702b}	BASS	①300Hz, defeat, 150Hz
S_{703a}, S_{703b}	TREBLE	①1.5KHz, defeat, 3KHz
S_{551a}, S_{551b}	LOW-CUT	①ON, ②OFF
S_{552a}–$_{552d}$	HIGH-CUT	①ON, ②OFF
S_{001a}, S_{001b}	MONITOR	①TAPE-1, ②SOURCE, ③TAPE-2
$S_{002a002a}$, S_{002b}	DUBING	①TAPE-1 to TAPE-2, ②SOURCE, ③TAPE-2 to TAPE-1
S_{002a}, S_{002b}	MODE	①MONO, ②STEREO, ③REVERSE

VOLUME

VR_{002a}–VR_{002b}	VOLUME CONTROL
VR_{701a}–VR_{701b}	BASS CONTROL
VR_{702a}–VR_{702b}	TREBLE CONTROL
VR_{401a}–VR_{401b}	MIC-MIXING CONTROL

TRANSISTOR

$Q_{451,452}$ $Q_{501,502}$ $Q_{555,556}$	2SC1345
$Q_{507,508}$ $Q_{511,512}$ $Q_{701-708}$	
$Q_{553,554}$ $Q_{509,510}$	2SA640
$Q_{001,002}$	2SA820
$Q_{003,004}$	2SC1103A
Q_{005} $Q_{052,053,009}$	2SC845
Q_{006} Q_{054}	2SA733
Q_{007}	2SC1431
Q_{008}	2SA782
Q_{009}	2SC1078
Q_{010}	2SA679
$Q_{051,055}$	2SC1382

R1500 AUDIO SECTION

SYMBOL NO.		DESCRIPTION	SYMBOL NO.		DESCRIPTION
T404	AM IF TRANS	V6AQC–20025AA	L103	FM RF COIL	
T405	AM IF TRANS	YMC–15002A	L104	FM OSCILATOR COIL	
L001	AM ANTENNA	LUX–16132	F201	FM IF FILTER	CF10M–12C
L101	FM ANTENNA COIL		F202	FM IF FILTER	CF10M–12C
L102	FM RF COIL		F203	FM LOW-PASS FILTER	LUX–14562

LAMPS

SYMBOL NO.			DESCRIPTION	SYMBOL NO.			DESCRIPTION
PL001	12V	30mA	FOR FM STEREO INDICATOR AL0035	PL006	12V	1.5W	FOR DIAL ILLUMINATION ~~AL0035~~
PL002	12V	1.5W	FOR DIAL ILLUMINATION	PL007	12V	1.5W	FOR DIAL ILLUMINATION
PL003	12V	1.5W	FOR DIAL ILLUMINATION AL 0012	PL008	12V	1.5W	FOR DIAL ILLUMINATION AL 0012
PL004	12V	1.5W.	FOR DIAL ILLUMINATION	PL009	12V	1.5W	FOR DIAL ILLUMINATION
PL005	12V	1.5W	FOR DIAL ILLUMINATION	PL010	12V	1.5W	FOR DIAL ILLUMINATION

FM/AM Frontend LA1030 FL516U14

LUX CORPORATION, JAPAN

HEAD OFFICE & FACTORY 1-8-31 NAGAHASHI, NISHINARI-KU, OSAKA
PHONES: 632 0031 CABLE: LUXELECT OSAKA
TELEX: J63694

Printed in Japan